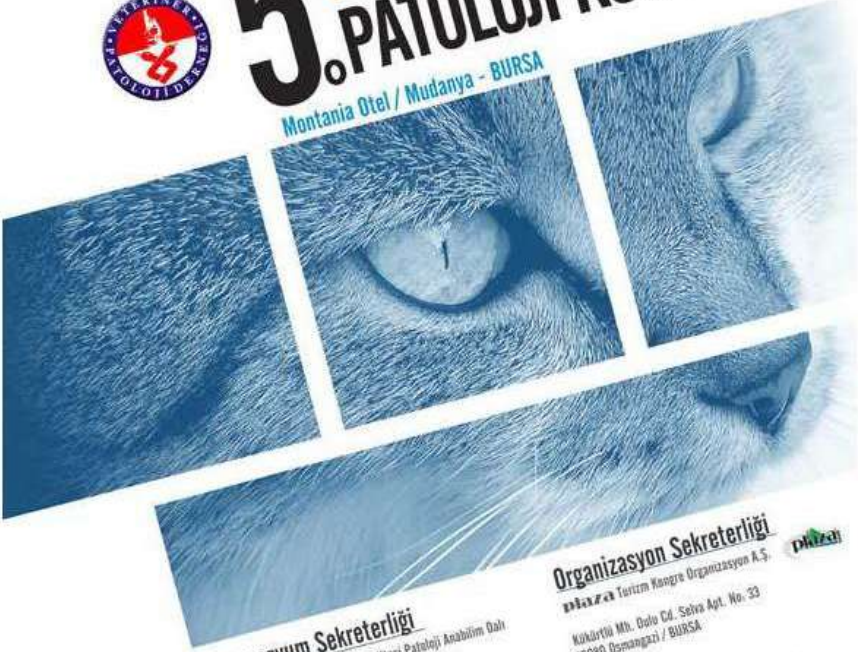




ULUDAĞ ÜNİVERSİTESİ
VETERİNER FAKÜLTESİ

5. ULUSAL VETERİNER (Uluslararası Katılımlı) PATOLOJİ KONGRESİ

Montania Otel / Mudanya - BURSA



14-18 EYLÜL 2010

Sempozyum Sekreterliği

Uludağ Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı
Göbraklı Kampüsü 16059 Nilüfer/BURSA

Yard. Doç. Dr. I. Taci CANGÜL
Tel : (0.224) 294 13 04
E-mail : itcangul@uludag.edu.tr

Yard. Doç. Dr. M. Özgür ÖZYİĞİT
Tel : (0.224) 294 13 05
E-mail : ozyigit@uludag.edu.tr

Organizasyon Sekreterliği

plaza Turizm Kongre Organizasyon A.Ş.

Kükürtlü Mh. Dolu Cd. Selva Apt. No. 33
16080 Osmangazi / BURSA

Gülçah SATTIÖZLÜ

Tel : +444 58 58 (GSM ve Sabit Hatlar için)
(0.224) 234 58 58
GSM : 0.530 321 56 24
Faks : (0.224) 233 63 25 - 236 84 70
E-mail : gultahsayigie@plazatur.com



V. ULUSAL VETERİNER PATOLOJİ KONGRESİ
(ULUSLARARASI KATILIMLI)
14-18 EYLÜL 2010
Mudanya, BURSA

5TH TURKISH VETERINARY PATHOLOGY CONGRESS
(WITH INTERNATIONAL PARTICIPATION)
SEPTEMBER 14-18, 2010
Mudanya, Bursa
TURKEY

KONGRE SEKRETERLİĞİ / CONGRESS SECRETARIAT

Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı
Görükle Kampüsü, 16059 Nilüfer/BURSA

Yard.Doç.Dr. İ.Taci CANGÜL

Tel / Phone: 0 224 2941304

E-posta / E-mail: itcangul@uludag.edu.tr

Yard.Doç.Dr. M.Özgür ÖZYİĞİT

Tel / Phone: 0 224 2941305

E-posta / E-mail: ozyigit@uludag.edu.tr

ORGANİZASYON SEKRETERLİĞİ / ORGANIZATION SECRETARIAT

Plaza Turizm Kongre Organizasyon A.Ş.
Kükürtlü Mh. Oulu Cd. Selva Apt. No: 33 Osmangazi / BURSA

Gülşah SAYIOĞLU

Tel / Phone: 0 224 2345858

Faks / Fax: 0 224 2336325

E-posta/ E-mail: gulsahsayioglu@plazatur.com

Kongre Web Adresi: <http://www.vetpat2010.org>

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Araş.Gör. Ezgi AKDEŞİR
Dokt.Öğr.Vet.Hekim Sevda İNAN
Prof.Dr. Rifki HAZIROĞLU Veteriner Patoloji Derneği Başkanı

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Prof.Dr. Gürsel SÖNMEZ Uludağ Üniversitesi Veteriner Fakültesi
Prof.Dr. Zabit YENER Yüzüncü Yıl Üniversitesi Veteriner Fakültesi

(*) İsimler alfabetik soyadı sırası dikkate alınarak düzenlenmiştir / In alphabetical order.

ÖNSÖZ

Ulusal Veteriner Patoloji Kongreleri 2002 yılından bu yana veteriner patoloji ailesinin bir araya geldiği ve veteriner patoloji alanındaki bilimsel gelişmelerin paylaşıldığı en önemli bilimsel etkinlik olarak süregelmektedir. İki yılda bir yapılan Ulusal Veteriner Patoloji Kongreleri'nin beşincisini Uludağ Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı ile Veteriner Patoloji Derneği tarafından ortaklaşa, tarih şehri Yeşil Bursa'da düzenlemekten büyük bir onur duymaktayız.

Veteriner Patoloji Kongrelerinin meslektaşlarımızın bir araya gelmesi, Veteriner Patoloji alanında yapılan bilimsel araştırmaların çağdaş bilimsel gelişmeler ışığında tartışılması, değerlendirilmesi ve görüşlerin paylaşımı, yapılacak araştırmalarda eşgüdümün sağlanması ve yeni çalışmalara öncülük etmesi bakımından son derece önemli olduğu kanısındayım. Daha önceki iki kongre gibi bu kongre de uluslararası katılımı olarak düzenlenmiştir. Bundan sonraki kongrelerin de uluslararası nitelikte olmalarını diliyorum ve umuyorum. Kongrede 21 yerli sözlü, 13 yabancı sözlü, 61 yerli poster, 29 yabancı poster olmak üzere toplam 124 sunu yapılacaktır. Onüç yabancı bildirinin biri çağrılı bildiri niteliğinde olup, Avrupa Veteriner Patoloji Koleji Sekreteri Prof.Dr. Anja KIPAR tarafından sunulacak olan "Avrupa'da Veteriner Patoloji Lisansüstü Eğitimi" başlıklı bildiridir. Kongremize destek sağlayan Uludağ Üniversitesi Rektörlüğüne, Veteriner Fakültesi Dekanlığına, Veteriner Patoloji Derneği Başkanlığına ve her aşamasında görev alan Düzenleme Kurulu Üyelerimiz Patoloji Anabilim Dalı Öğretim Üye ve Elemanlarına sonsuz teşekkürlerimi sunuyorum. Ülkemizde Veteriner Patoloji'nin gelişiminde katkıları olan tüm hocalarımıza teşekkür ediyor, saygıyla anıyorum. Uludağ Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı'nın kuruluşu ve gelişiminde büyük emekleri olan merhum Prof.Dr. Erdoğan ERTÜRK hocamızın aziz hatırasını minnet, şükran ve saygı ile anıyorum.

Kongremize mali desteklerini esirgemeyen tüm sponsorlarımıza değerli katkı ve destekleri için teşekkürlerimi sunuyorum.

V. Ulusal Veteriner Patoloji Kongresi'nin başarılı geçmesi dileğiyle saygılarımı sunuyorum.

Eylül 2010

Prof.Dr. Gürsel SÖNMEZ
Kongre Düzenleme Kurulu Başkanı

FOREWORD

Turkish Veterinary Pathology Congresses have been the most important scientific activity where the veterinary pathology family meet and discuss the developments in the field since 2002. We are happy to organize the fifth of this biennial congress in the historical city of Green Bursa by the joint effort of the Department of Pathology of the Faculty of Veterinary Medicine, Uludağ University and Turkish Veterinary Pathology Society.

Turkish Veterinary Pathology Congresses have a major impact as a venue to bring our colleagues together, to discuss scientific research in the field of veterinary pathology under the light of recent scientific developments, to coordinate research and to lead new insights. As in the last two congresses, this congress also has an international dimension. There will be a total of 21 national and 13 international oral presentations, and 61 national and 29 international poster presentations, which will total 124 presentations. One of the international presentations is a keynote speech by Prof.Dr. Anja Kipar, the Secretary of the European College of Veterinary Pathology, on Postgraduate Training in Veterinary Pathology in Europe.

I would like to extend my cordial gratitude to Rectorate of Uludağ University, Deanship of the Faculty of Veterinary Medicine and to the members of the Organizing Committee and to remember all the scientists who contributed to development of veterinary pathology in our country. I also would like to commemorate Prof.Dr. Erdoğan Ertürk, the founder of our department, with respect.

Our sponsors who financially support this scientific organization also merit appreciation.

I wish you a fruitful congress and pleasant stay in Bursa.

Sincerely yours,

Prof.Dr. Gürsel Sönmez
Congress President

PROGRAM / PROGRAMME

14 EYLÜL 2010 SALI
(September 14, 2010, Tuesday)

12:00-19:00	Otele Giriş ve Kayıt / Check-in and Registration
19:00-23:30	Açılış Kokteyli / Cocktail

15 EYLÜL 2010 ÇARŞAMBA
(September 15, 2010, Wednesday)

09:00-10:00	Kayıt / Registration
10:00-10:30	Açılış Töreni / Opening Ceremony
10:30-11:00	Kahve Arası / Coffee Break

1. Oturum (1st Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Rifki HAZIROĞLU / Prof.Dr. M.Müfit KAHRAMAN

11:00-12:00	Çağrılı Tebliğ / Keynote Speech Prof.Dr. Anja KIPAR Postgraduate training in veterinary pathology in Europe / Avrupa'da veteriner patoloji lisansüstü eğitimi	3
12:00-12:30	Fotoğraf Çekimi / Photo shoot	
12:30-14:00	Öğle Yemeği / Lunch	

2. Oturum (2nd Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. M.Kemal ÇİFTÇİ / Prof.Dr. Deniz MISIRLIOĞLU

14:00-14:10	<u>Ö ÖZDEMİR</u> , H ERER Yumurtacı tavuklarda solunum sistemi lezyonları üzerine patolojik ve mikrobiyolojik incelemeler / Pathological and microbiological investigations on the lesions of the respiratory systems of laying hens	9
14:10-14:20	<u>G YÜZBAŞIOĞLU ÖZTÜRK</u> , A GÜREL Güvercinlerde paramyxovirus-1 (pPMV-1) enfeksiyonunun histopatolojik ve immunohistokimyasal teşhisi / Histopathological and immunohistochemical detection of paramyxovirus-1 (pPMV-1) in organs of pigeons	
14:20-14:30	<u>ŞY ÖZSOY</u> , R HAZIROĞLU Kedi beyinlerinde yaşa ilişkin değişikliklerin immunohistokimyasal tekniklerle değerlendirilmesi / Age-related changes in cat brains as demonstrated by immunohistochemical techniques	
14:30-14:40	OM KOÇAK, HT ATMACA, <u>OS TERZİ</u> , H ÖZDEMİR, T UZUNALIOĞLU, GÇ DİNÇEL, E BAL, O KUL Farelerde deneysel kronik toksoplazmoz modeli: Beyin lezyonlarının	

	davranış değişiklikleri ile ilişkilendirilmesi / Experimental chronic toxoplasmosis model in mice: Brain lesions and related behavioral changes	
14:40-14:50	E ORUÇ Bir keçi de burun içi düşük dereceli adenokarsinom (muhtemel enzootik nazal tümör) olgusu / Intranasal low grade adenocarcinoma (a possible case of enzootic nasal tumor) in a goat	
14:50-15:15	Tartışma / Discussion	
15:15-15:30	Kahve Arası / Coffee Break	

3. Oturum (3rd Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Hüdaverdi ERER / Prof.Dr. Tolga GÜVENÇ / Prof.Dr. Yavuz Selim SAĞLAM

15:30-15:40	A KHAN , MK SALEEMI, MZ KHAN, ST GUL, M IRFAN, MS QAMAR Hemorrhagic septicemia in buffalo (<i>Bubalus bubalis</i>) calves under sub-tropical conditions in Pakistan	
15:40-15:50	K JAMSHIDI , S MOSHFEQI, A DANESHVAR Comparative study of amyloidogenic potential of AgNO ₃ and Freund's Adjuvant (AF) with that of vitamin free casein, on spatio-temporal pattern of experimental amyloidosis in mice	
15:50-16:00	AR MOVASSAGHI , MR ASLANI, A GORGANZADEH Histopathological study of the effect of allicin on experimental lead poisoning in mice	
16:00-16:10	MAM SHARIF , EM AL FAZANI, WM JOUNIS The toxicity with Thapsia garganica in rabbits	
16:10-16:20	F MAHMOOD , MZ KHAN, A KHAN, G MUHAMMADA, I JAVEDB Lysine induced modulation of toxico-pathological effects of cottonseed meal in broiler breeder males	
16:20-16:30	F SASANI , SN COLLINS, K MATIASEK Preliminary study of the dorsal root ganglion pathology in the horse	
16:30-17:00	Tartışma / Discussion	
17:00-19:30	İsteğe Bağlı Fakülte Turu ya da Serbest Zaman / Optional Faculty Trip or Free Time	
19:30-23:00	Akşam Yemeği / Dinner	

16 EYLÜL 2010 PERŞEMBE (September 16, 2010, Thursday)

09:00-09:30	Poster Savunma / Poster Defense (1-45)
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4. Oturum (4th Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Harun ÖZER / Prof.Dr. Aydın GÜREL

09:30-09:40	Ö ÖZMEN , Ş ŞAHİNDURAN, M HALİGÜR, N DEMİR Beş keçi de gözlenen enzootik nazal adenokarsinomda klinik, patolojik, immunohistokimyasal ve elektron mikroskopik incelemeler / Clinical, pathological, immunohistochemical and ultrastructural observations on	
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	enzootic nasal adenocarcinoma in five goats	
09:40-09:50	E ORUC Holstein buzağında buzağı tipi (juvenil) sporadik sığır lökozu / Calf type (juvenile) sporadic bovine leukosis in a Holstein calf	
09:50-10:00	H KELEŞ , O KUTSAL, Ö BEŞALTI Bir kedide fibrosarkomatozis / Fibrosarcomatosis in a cat	
10:00-10:10	N YUMUŞAK, M ÇALIŞKAN, AS COŞKAN , O KUTSAL Bir kedinin parotid tükürük bezinde kistadenokarsinom / Cystadenocarcinoma in a parotid salivary gland in a cat	
10:10-10:30	Tartışma / Discussion	
10:30-11:00	Kahve Arası / Coffee Break	

5. Oturum (5th Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Nursal METİN / Prof.Dr. Seçkin S. ARUN

11:00-11:10	MK ÇİFTÇİ , Ö ÖZDEMİR, M ORTATATLI, F HATİPOĞLU, Ö KANAT Genç kuzularda akut verminöz meningoensefalitis / Acute verminous meningoencephalitis in young lambs	
11:10-11:20	SS BİRİNCİOĞLU , H AVCI, B BİRİNCİOĞLU, H AKŞİT, ET EPİKMEN, A AYDOĞAN, W SCHMAHL <i>Asphodelus aestivus</i> tohumları yedirilen koyunlarda nöronal lipofuskinosis üzerine patolojik ve biyokimyasal araştırmalar / Pathological and biochemical investigations on the neuronal lipofuscinosis in sheep fed with <i>Asphodelus aestivus</i> seeds	
11:20-11:30	M KARAMAN, H ÖZEN , S DAĞ ERGİNSOY, M ŞAHİN Sığır leptospirozunun patogeneğinde ubiquitin ve 8-hidroksiguanozinin rollerinin immunohistokimyasal yöntemlerle araştırılması / Immunohistochemical investigation of the role of ubiquitin and 8-hydroxyguanosine in pathogenesis of cattle leptospirosis	
11:30-11:40	MÖ ÖZYİĞİT , D SCHNEIDER, T TRUSCOTT, KI O'ROURKE Koyunlarda PrPSc'nin hemal düğümlerde tiplendirilmesi ve tanımı / Hemal node cellular phenotyping and description of PrPSc in sheep	
11:40-11:50	R YILMAZ , K ÖNAT, İT CANGÜL, A AKKOÇ, MÖ ÖZYİĞİT Sığırlarda <i>Mycoplasma bovis</i> pnömonilerinde histopatolojik ve immunohistokimyasal bulgular / Histopathologic and immunohistochemical findings in bovine <i>Mycoplasma bovis</i> pneumoniae	
11:50-12:00	ET EPİKMEN , N TOPLU Doğal küçük ruminant vebası (Peste des Petits Ruminants)'nın tanısında patolojik ve immunohistokimyasal incelemeler / Pathological and immunohistochemical investigation in diagnosis of natural Peste des Petits Ruminants	
12:00-12:30	Tartışma / Discussion	
12:30-14:00	Öğle Yemeği / Lunch	

6. Oturum (6th Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Osman KUTSAL / Prof.Dr. Yavuz GÜLBAHAR

14:00-14:10	M YOUNUS , ZI CHAUDHARY, MA KHAN, M BOULJIHAD, AR SHAKOORI, N MEHMOOD, M RAMZAN Pathogenecity and maintainance of Salmonella serovars in broiler chickens as detected by PCR test	
14:10-14:20	R HUSSAIN, F MAHMOOD , MZ KHAN, A KHAN, F MUHAMMAD Pathological and genotoxic effects of atrazine in Japanese quail (<i>Coturnix japonica</i>)	
14:20-14:30	RZ ABBAS , SH MUNAWAR, I ZAFAR, MK SALEEMI, MA ZAFAR, A YOUSAF Studies on the comparative efficacy of acetic acid and amprolium on the occurrence of coccidiosis and growth performance of broiler chickens	
14:30-14:40	J KHOSHNEGAH , AR MOVASSAGH Cutaneous manifestations of canine leishmaniasis: A clinical and histopathological study of 36 spontaneous cases from an endemic focus in Iran	
14:40-14:50	A KHAN , L AHMAD, MZ KHAN, MK SALEEMI, F MAHMOOD, M IMRAN Toxico-pathological effects of cypermethrin on testes, sperm counts and testosterone concentration in rabbits	
14:50-15:00	Q NISA , M YOUNUS, M RABBANI Histopathological and hematological analysis of broiler chickens experimentally infected with pathogenic <i>Escherichia coli</i>	
15:00-15:30	Tartışma / Discussion	
15:45-19:00	Körfez Turu / Boat Trip	
19:30-23:00	Akşam Yemeği / Dinner	

17 EYLÜL 2010 CUMA (September 17, 2010, Friday)

09:00-09:30	Poster Savunma / Poster Defense (46-90)	
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7. Oturum (7th Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Mustafa ORTATATLI / Prof.Dr. Fatih HATİPOĞLU

09:30-09:40	R YILMAZ, F TEMAMOĞULLARI, Z ÖZYILDIZ , A HAYAT Tavşanlarda biberiye (<i>Rosemarinus officinalis</i>) ekstraktının yara iyileşmesi üzerine etkileri / The effect of rosemary (<i>Rosemarinus officinalis</i>) extract on wound healing in rabbits	
09:40-09:50	H AVCI , SS BİRİNCİOĞLU <i>Vibrio anguillarum</i> ile enfekte edilen gökkuşağı alabalıklarında (<i>Oncorhynchus mykiss</i> Walbaum, 1792) morfolojik ve immunohistokimyasal incelemeler / Morphologic and immunohistochemical investigations in rainbow trout (<i>Oncorhynchus mykiss</i> Walbaum, 1792) experimentally infected with <i>Vibrio anguillarum</i>	
09:50-10:00	A GÜREL, F YILDIZ , G ŞENNAZLI, N TURAN, H YILMAZ İki abort tayda saptanan equine herpes virüs-1 enfeksiyonu /Equine	

	herpes virus-1 infection detected in two aborted foals	
10:00-10:10	A SEVİMLİ, İ DEMİRKAN, A ULUCAN , M KORKMAZ, ÇÇ CINGİ İki günlük bir buzağıda damak yarıklığı ile birlikte gözlenen servikal ektopia kordis olgusu / A case of ectopia cordis with palatal cleft in a two-day-old calf	
10:10-10:20	N YUMUŞAK, M ÇALIŞKAN, G YÜCEL , O KUTSAL Kalsinosis sirkumskripta olgusunda sitopatolojik ve klinikopatolojik bulgular / The cytopathological and clinicopathological findings of calcinosis circumscripta	
10:20-10:30	HT ATMACA, GÇ DİNÇEL , HC MACUN, OS TERZİ, T UZUNALİOĞLU, H KALENDER, O KUL Kedide konjenital toksoplazmoz: Gebe kedi ve yavrusunda ölümcül sistemik enfeksiyon / Feline congenital toxoplasmosis: Fatal systemic infection in pregnant cat and its kitten	
10:30-11:00	Tartışma / Discussion	
11:00-11:15	Kahve Arası / Coffee Break	
11:15-11:45	Serbest Zaman / Free Time Jüri için Poster Değerlendirme /Poster Evaluation Time for the Jury	

8. Oturum (8th Session)

Oturum Başkanları (Session Moderators):

Prof.Dr. Rifki HAZIROĞLU / Prof.Dr. Gürsel SÖNMEZ

11:45-12:00	Ödül Töreni / Prize Ceremony
12:00-12:30	Dilek-Temenniler ve Kapanış / Remarks & Suggestions and Closure
12:30-19:00	Bursa'da Öğle Yemeği ve Bursa Gezisi / Lunch and Trip in Bursa
19:00-19:30	Serbest Zaman / Free Time
19:30-23:30	Gala Yemeği / Gala Dinner

18 EYLÜL 2010 CUMARTESİ (September 18, 2010, Saturday)

09:00-12:00	Çıkış / Check-out
09:30-10:30	Veteriner Patoloji Derneği Komisyon Toplantıları / Committee Meetings of Turkish Veterinary Pathology Association

POSTER SUNUMLARI / POSTER PRESENTATIONS

1- H YÜKSEL , E KARADAŞ, H KELEŞ, HH DEMİREL Hexachlorocyclohexane (HCH- γ -isomer, lindane) intoksikasyonun rat testislerindeki proliferasyon ve apoptosis üzerine etkisi / Effects of hexachlorocyclohexane (HCH- γ -isomer, lindane) intoxication on the proliferation and apoptosis in rat testes	
2- N TİMURKAAN, M AYDIN, F YILMAZ , A ÇEVİK Bir inekte vaginal fibroleiomyom / Vaginal fibroleiomyoma in a cow	
3- N TİMURKAAN , F YILMAZ, S TİMURKAAN Rat testislerinde pamuk tohumu ununun androjen reseptörler üzerine etkileri / Effects of cottonseed flour on androgen receptors in rat testes	
4- İ YAMAN , E BALIKÇI Ratlarda gentamisin sülfat nefrotoksitesinde <i>Nigella sativa</i> 'nın koruyucu etkisi / Protective effects of <i>Nigella sativa</i> against gentamicin-induced nephrotoxicity in rats	
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ÇAĞRILI TEBLİĞ / KEYNOTE SPEECH

Postgraduate Training in Veterinary Pathology in Europe

Anja Kipar, Dr.Med.Vet.Habil., Dipl. ECVP, MRCVS
Professor of Veterinary Pathology, University of Liverpool, UK
Secretary of the European College of Veterinary Pathology

Veterinary pathologists play key roles in the health and welfare of people and animals. They contribute vital expertise to a wide range of fields, particularly the monitoring of animal health and welfare, diagnosis of emerging diseases, food safety, identification and/or development of animal models for human diseases, development of new drugs for the treatment of animal and human diseases, epidemiological studies, wildlife conservation and studies on wildlife as indicators of environmental health.

To achieve expertise in any area of the wide range described above, both broad knowledge and expertise in general and special organ pathology, but also specific expertise in the pathology of a wide range of species is essential. Furthermore, in order to become a valuable member of interdisciplinary research teams, relevant expertise in research techniques and practice is needed. In particular for pathologists in academia, the development of a personal research track record is of major relevance.

The need for postgraduate training in veterinary pathology has long been recognised in Europe. Postgraduate training and qualifications in the field has evolved with time, but has more recently been aligned with international demands. This is particularly pursued by the European College of Veterinary Pathologists.

European College of Veterinary Pathologists (ECVP)

The ECVP was established in 1995 to advance veterinary pathology and promote high standards within the specialty in Europe. At that time many different qualification systems, with varying standards, were practiced in various European countries. With the globalisation of science, health and industry, however, the need to harmonise professional qualifications at an international level was recognised. As a consequence of the growing desire to harmonise post-graduate training and provide certification in veterinary pathology in Europe, the European Society of Veterinary Pathology (ESVP) had proposed to establish the ECVP at its 12th Autumn Meeting in 1994. The ECVP therefore represents an organised effort to establish Europe-wide criteria for training and experience to qualify as a specialist in veterinary pathology and encourages veterinarians entering the field to acquire training and competence based on approved standards. Those who meet the standards of training and competence established by the college, and pass the certifying examination, are awarded ECVP member status (DiplECVP).

The ECVP is one of the 23 European colleges organising postgraduate veterinary specialisation under the umbrella of the European Board of Veterinary Specialisation (EBVS). It has received full recognition by the EBVS in 2007.

ECVP Certifying Examination, ECVP registered Residency Training Centres

Since 1998, membership of the college can be achieved only by passing the ECVP certifying examination, the first of which was organised in 1999. By February 2010, the number of members had increased to 280, including 130 new members by examination.

The ECVP provides one certifying examination per year, in February. Form and criteria follow the requirements of the EBVS. The examination is delivered over two-and-a-half days and has five parts (Histopathology, Gross Pathology, General Pathology, Veterinary Pathology, Comprehensive Pathology). The passing mark is 60% for each and marking is performed by a standard operating procedure approved by the ECVP Council. Candidates who pass two or more parts retain credit for these parts for the next four years, provided a mark of more than 30% has been attained in the failed parts. Two additional attempts to pass the failed parts are permitted within these four years.

The EBVS requires the ECVP to have established criteria for residency programmes and to approve the residency programmes of individual institutions that aim to train veterinary pathologists in preparation for the ECVP certifying examination. Accordingly, the ECVP has prepared a document outlining its requirements for registration of residency training programmes and institutions need to apply to be approved as registered residency training centres. Programme directors need to be diplomats of the ECVP or ACVP. By 2010, 42 institutions in Europe have ECVP registered residency training centres, and new proposals from other centres are considered at any time.

In preparation for the ECVP certifying examination, veterinarians need to be registered as trainees with the ECVP. They are required to undergo training in an ECVP registered residency training centre; either following the classic route (residency) in the form of a minimum of 36 months full time training in a registered centre, or taking the alternate route, which requires a minimum of 5 years training, of which 12 months must be spent in a registered centre.

Europe-Wide International Training Initiatives

ECVP/ESVP Summer School in Veterinary Pathology

Together with the European Society of Veterinary Pathology (ESVP), the organisation which represents practising veterinary pathologists throughout Europe and beyond, the ECVP has established high-standard, structured postgraduate training courses in the core skills and latest research techniques in veterinary pathology and relevant related topics. This complementary training for veterinarians aiming for a career in veterinary pathology and planning to sit the ECVP certifying examination focuses on both the scientific and technical aspects of the discipline and is comprised of a four-year-cycle of two-week events, each with several independent modules that are delivered by internationally acknowledged experts in their specific topic and mostly ECVP/ACVP certified veterinary pathologists. Every second year, a group of recent ECVP diplomats under guidance of a former member of the ECVP Examination

Committee prepares a 2-day representative mock examination with subsequent thorough revision and discussion. Participants are veterinarians training or working in the field of pathology, mainly from Universities (usually >70%), as they are the main providers of postgraduate training in the field, but also from state and private diagnostic laboratories, research laboratories or pharmaceutical companies. They generally consider the Summer Schools as an essential component of their individual preparation for the examination and their future professional life and often attend several, consecutive Summer Schools.

The Summer Schools have shown several positive effects. An international network of experienced, qualified veterinary pathologists and trainees has developed, reflected by annual international study groups in preparation for the ECVF certifying examination and attendance of trainees from work environments that are unable to offer supervision by board-certified pathologist at institutions with a strong training emphasis. Lecturers in Summer Schools who come from outside Europe (mainly USA) keep contact with the ECVF and help to develop further links. In addition, the Summer Schools provide information on open positions and offer discussion forums for collaborative research.

Training Opportunities for Pathologists from Countries without ECVF Registered Residency Training Centres

With establishment of the ECVF certifying examination more than a decade ago, in combination with the annual ECVF/ESVP Summer Schools which have taken place on an annual basis since 2003, significant progress has been made in the Europe-wide harmonisation of certification and training in veterinary pathology. However, the ECVF has realised the problems that pathologists are facing who work in an environment without training opportunities towards the ECVF certifying examination. This is particularly true for academics in countries without any ECVF registered residency training centre (currently 11 of the 24 member states, all candidate countries and 10 of the remaining European countries with veterinary schools). While the Summer Schools help these candidates to gain essential knowledge and expertise, the formal training component can often not be provided. This may be due to several reasons, and financial constraints can be one.

In order to address this problem, the ECVF has recently launched the "Ambassadorship Initiative" which provides financial support to an experienced pathologist from an institution in a European country without ECVF registered training centre for a 12-month stay in a recognised training centre, in preparation for the ECVF certifying examination. The first candidate should start training in the coming year which, upon successful completion of the training through ECVF membership, should allow the candidate to establish a new recognised training centre in their home country. Ultimately, this initiative is intended as a further step towards harmonisation and top standard of the profession.

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**SÖZLÜ BİLDİRİLER (SUNUŞ SIRASINA GÖRE) /
ORAL PRESENTATIONS (IN ORDER OF PRESENTATION)**

Yumurtacı tavuklarda solunum sistemi lezyonları üzerine patolojik ve mikrobiyolojik incelemeler

Ö. ÖZDEMİR, H. ERER

Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

Özet Bu çalışmada, Konya ve çevresindeki yumurtacı tavuk işletmelerinde solunum sistemi problemi olan ya da enfeksiyonu geçirmiş sürülerden elde edilen tavukların tüm solunum sistemi organları patolojik ve mikrobiyolojik açıdan incelenerek, lezyonların ilgili sistemdeki dağılımları, karakteri ve mikrobiyolojik sonuçlarla ilişkisinin ortaya konulması amaçlandı. Çalışmada 33 kümeden 192 adet tavuk alınarak nekropsileri yapıldı. Patolojik ve immunohistokimyasal incelemeler için burun, infraorbital sinuslar, larinks, trake, akciğer ve hava keseleri ile mikrobiyolojik incelemeler için de trake, akciğer, kalp, karaciğer ve dalaktan parçalar alındı. Histopatolojik incelemelerde epitel ve propriyadaki lezyonlar hafif (+), orta (++) ve şiddetli (+++) derecelerde olmak üzere ayrı ayrı skorlandı. Makroskobik bulguların, tüm solunum sistemi enfeksiyonlarında görülen genel bulgular olduğu, mukozalardaki toplu iğne başı büyüklüğünde beyazımsı renkteki odakların propriyadaki şiddetli lenfoid hücre infiltrasyonu ile lenfoid hiperplaziyi yansıttığı görüldü. İncelenen organların lümenlerinde rastlanan kazeöz kitlelerin *Mycoplasma gallisepticum* ve *E.coli* enfeksiyonu ile ilişkili olabileceği düşünüldü. Araştırmada klinik, patolojik ve mikrobiyolojik bulgular değerlendirildiğinde genel olarak miks enfeksiyonların görüldüğü, sekonder enfeksiyonların lezyonları artırdığı veya primer lezyonları maskeleydiği, korunma veya tedavi amaçlı antibiyotik kullanımının mikrobiyolojik sonuçları olumsuz etkilediği görüldü. Bu tür enfeksiyonlarda klinik ve patolojik bulgularla teşhiste zorlanıldığı, immunoperoksidaz boyama ve PCR gibi tekniklerin kullanılmasının gerektiği kanısına varıldı. Saha çalışmalarında izole edilen mikroorganizmaların hastalıkla ilgili olup olmadığının anlaşılabilmesi için mutlaka klinik ve patolojik bulgularla birlikte değerlendirilmesi gerektiği düşünüldü. Poliklonal antikor bazlı immunoperoksidaz boyamalarda pozitif reaksiyonların aşılı ve/veya enfekte ayırımında yanlış yorumlanabileceği, doğru neticelerin ise monoklonal bazlı antikorların kullanılmasıyla sağlanabileceği kanısına varıldı.

Anahtar kelimeler Yumurtacı tavuk, solunum sistemi hastalığı, patoloji, immunoperoksidaz

Pathological and microbiological investigations on the lesions of the respiratory systems of laying hens

Abstract The present study was intended to investigate pathologically and microbiologically all organs of the respiratory systems of chickens taken from flocks in laying hens enterprises in and around Konya that had respiratory system problems and to reveal the distribution of lesions in the relevant system, their characteristics and their connection with the microbiological results. For the study, 192 chickens were

taken from 33 coops and necropsies were conducted on them. In histopathological examination, lesions in epithelium and propria were separately scored as mild (+), medium (++) and severe (+++). It was found that macroscopic findings were common findings that could be encountered in all infections of the respiratory system, and the whitish foci as big as a pinhead in the mucuous membranes indicated severe lymphoid cell infiltration in propria and lymphoid hyperplasia. It was thought that the caseous masses encountered in the lumens of the examined organs could be related with infections of *Mycoplasma gallisepticum* and *E.coli*. When clinical, pathological and microbiological findings of the study were evaluated, it was found that generally mixed infections were observed, secondary infections increased lesions or masked primary lesions and use of antibiotics for protection or treatment negatively affected microbiological results. It was thought that in order to find out whether microorganisms which were isolated in fieldwork were related to the disease or not, it had to be evaluated together with clinical and pathological findings. It was concluded that positive reactions in polyclonal antibody-based immunoperoxidase staining could be misinterpreted in immunized and/or infected distinction, and therefore accurate results could be obtained through the use of monoclonal-based antibodies.

Keywords Laying hens, respiratory disease, pathology, immunoperoxidase

Güvercinlerde paramyxovirus-1 (pPMV-1) enfeksiyonunun histopatolojik ve immunohistokimyasal teşhisi

G. YÜZBAŞIOĞLU ÖZTÜRK, A. GÜREL

İstanbul Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, İstanbul

Özet Pigeon Paramiksovirus-1 (pPMV-1) klasik Newcastle hastalığının etkeni olarak kabul edilen avian Paramiksovirus-1 (aPMV-1)'in serolojik olarak küçük farklılıklar gösteren bir varyantıdır. Bu çalışmanın başlıca amacı, İstanbul ve çevresinde bulunan güvercin popülasyonunda hastalığın varlığını belirlemek, hastalıkta gelişen başlıca mikroskopik lezyonları saptamak, immunohistokimyasal yöntemler ile etkeni tespit ederek kesin teşhis yapmak ve hastalığın patogenezi hakkında daha detaylı bilgi edinebilmektir. Bu amaçla, İstanbul ilçelerindeki farklı güvercin kümeslerinden, 37 adet pPMV-1 enfeksiyonu şüpheli güvercinin serum örnekleri toplandı. Histopatolojik inceleme için, ELISA sonuçları pozitif çıkan kümeslerde araştırma süresince ölen güvercinlere yapılan nekropsiler sonucu alınan (n=74) ve Anabilim Dalı arşivinde bulunan pPMV-1 enfeksiyonu şüpheli güvercinlere ait doku örnekleri (n=4) incelendi. Histopatolojik incelemesi yapılan dokular MAb 617/161 kullanılarak immunohistokimyasal olarak işaretlendi. ELISA'da %89,18 pozitif, %5,4 şüpheli, %5,4 negatif iken İHK'da %60,25 oranında pozitif boyanmalar böbrek, karaciğer başta olmak üzere değişik organlarda özellikle lenfoid hücrelerde intrasitoplazmik olarak izlendi. Sonuç olarak, enfeksiyonun İstanbul ve çevresinde yaşayan güvercinlerde varlığı gösterilmiş ve hastalığın kesin teşhisi için böbrek, pankreas, dalak, karaciğer gibi organlarda yapılacak İHK boyamaları ile mononükleer lenfoid hücreler ve makrofaj sitoplazmalarında antijenin gösterilmesi ile yapılabileceği sonucuna varılmıştır.

Anahtar kelimeler Güvercin, pPMV-1, Newcastle hastalığı, immunohistokimya, ELISA

Histopathological and immunohistochemical detection of paramyxovirus-1 (pPMV-1) in organs of pigeons

Abstract Pigeon Paramyxovirus-1 is a variant of Avian Paramyxovirus-1, known as the causative agent of conventional Newcastle Disease (ND), with subtle serologic diversity. The main objective of the study is to determine the occurrence and the primary histopathological lesions of ND in the pigeons and to demonstrate the agent immunohistochemically so as to reach a definite diagnosis and elucidate the pathogenesis of the disease, as well. Sera were collected for ELISA from thirty-seven pigeons with suspicion of pPMV-1 infection, housed at different flocks in various districts of İstanbul. Histological evaluation was carried out with tissue specimens, obtained from necropsy of pigeons (n=74), which died during the research, from flocks known to be positive by ELISA and tissue blocks of routinely submitted cases (n=4) with suspicion of pPMV-1 infection. Tissue samples were immunohistochemically stained with MAb 617/161. Ratios of positive, suspicious and negative cases by ELISA were shown to be 89.18%, 5.4% and 5.4%, respectively, whereas positive cytoplasmic

reaction by immunohistochemistry was demonstrated in 60.25% of all cases, particularly in lymphoid cells of kidney and liver. It was concluded that infection did occur in pigeon flocks in Istanbul and the vicinity and immunohistochemistry was considered to be a useful tool in reaching a definite diagnosis by immunostaining of antigenic particles in lymphoid cells and macrophages localised especially in kidney, liver, pancreas and the spleen.

Keywords Pigeon, pPMV-1, Newcastle Disease, immunohistochemistry, ELISA

Kedi beyinlerinde yaşa ilişkin değişikliklerin immunohistokimyasal tekniklerle değerlendirilmesi

Ş.Y. ÖZSOY¹, R. HAZIROĞLU²

¹Mustafa Kemal Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Hatay

²Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Yaşa ilgili olarak kedi beyinlerinde oluşan lezyonların histopatolojik yönden değerlendirilmesi ve immunohistokimyasal bulgularının ortaya konması bu çalışmanın amacını oluşturmaktadır. 10 yaş üzeri 24 adet kedi beyni hematoksilin eosin (HE), Periodic acid-Schiff (PAS), Kongo red, von Kossa ve immunohistokimyasal teknikler kullanılarak 1-2 yaş arası 8 adet genç kedi beyni ile kıyaslandı. Primer antikor olarak neuron-specific enolase (NSE), 2',3'-cyclic nucleotide 3'-phosphodiesterase (CNPase), ubiquitin, glial fibrillary acidic protein (GFAP) and beta-amyloid (A β) kullanıldı. Makroskopik olarak yaşlı beyinlerde serebrum ve serebellumda atrofi ile ventrikuluslarda genişleme gözlemlendi. Mikroskopik olarak gliosis ve satellitosis, spongiform değişiklikler, aksonal ve nöronal şişmeler, kalsium birikimleri, lipofuksin pigmenti, damar duvarlarında fibrozis ve ependymal değişiklikler mevcuttu. Ayrıca A β pozitif senil plaklar, ubiquitin pozitif immunoreaksiyon, GFAP boyanmasında artış, CNPase pozitif oligodendrositler ve NSE pozitif neuronlar yaşlı beyinlerde gözlenen diğer değişikliklerdi. Sonuç olarak serebral ve serebellar korteks yaşlanmaya bağlı strüktürel değişikliklere uğramaktadır. Kedi beyinlerinde yaşlanmaya ilgili gözlenen bu değişiklikler ile insanlarda ve diğer yaşlı memelilerde gözlenenler arasında benzerlik bulunmaktadır.

Anahtar kelimeler Beyin, histopatoloji, immunohistokimya, kedi, yaşlanma

Age-related changes in cat brains as demonstrated by immunohistochemical techniques

Abstract We investigated the age-related pathological changes in cat brains. The brains of 24 cats (over 10 years old) were compared with 8 younger cats (1-2 years old) using haematoxylin and eosin (HE), Periodic acid-Schiff (PAS), von Kossa and immunohistochemical techniques to measure neuron-specific enolase (NSE), 2',3'-cyclic nucleotide 3'-phosphodiesterase (CNPase), ubiquitin, glial fibrillary acidic protein (GFAP) and beta-amyloid (A β). In the aged brains, gross examination revealed cerebellar and cerebral atrophy with ventricular dilatation. Microscopically, the following details were observed: gliosis and satellitosis, spongiform changes, axonal and neuronal swellings, satellitosis, calcium deposits, lipofuscinosis, vascular walls fibrosis and ependymal defects. Also seen were A β positive senile plaques, ubiquitin positive immunoreaction, increased GFAP immunostaining, CNPase positive oligodendrocytes and NSE positive neurons. In conclusion, the cerebral and cerebellar cortex undergo age-related structural changes. These age-related alterations of brain observed in cats were similar to those observed in humans and in other old mammals.

Keywords Aging, brain, cat, histopathology, immunohistochemistry

Farelerde deneysel kronik toksoplazmoz modeli: Beyin lezyonlarının davranış değişiklikleri ile ilişkilendirilmesi

O.M. KOÇAK¹, H.T. ATMACA², **O.S. TERZİ**², H. ÖZDEMİR¹, T. UZUNALIOĞLU², G.Ç. DİNÇEL², E. BAL, O. KUL²

¹Kırıkkale Üniversitesi, Tıp Fakültesi, Psikiyatri Anabilim Dalı, Kırıkkale

²Kırıkkale Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kırıkkale

Özet Toksoplazmoz, hemen tüm canlılarda akut ölümcül enfeksiyonların yanısıra, sıklıkla beyinde doku kistlerinin yaşam boyu kalıcı olabildiği latent formda seyreder. Dünyada 500 milyon insanın yaşamlarının bir döneminde *Toxoplasma gondii* ile karşılaştıkları tahmin edilmektedir. Eskiden beri düşünülen aksine, deneysel çalışmalarda, *T.gondii* doku kistlerinin beyinde non-reaksiyonel olmadığı, gerek doğrudan salgıladığı mediatörler ve gerekse sağlıklı bireylere oranla daha yüksek düzeyde yangısal reaksiyonlara neden olarak, birtakım davranış değişikliklerine yol açabildiği ortaya konulmuştur. Normal koşullarda, fare ve sıçanların, avcısı konumunda olan kedinin idrarı ve kokusundan korkarak o bölgelere uzak durmaları beklenirken beyinlerinde parazitin doku kistini taşıyan farelerin, kedilerden korkmaması yönünde bir davranış değişikliği, bu hayvanların avcılarına daha kolay yem olmalarını ve dolayısıyla parazitin biyolojik döngüsünü tamamlama oranını arttırmaktadır. Bu çalışmada; kist oluşturan *T. gondii* ME 49 suşu ile kronik toksoplazmoz oluşturulması ve sağlıklı olanlara göre; enfekte farelerde oluşan davranış değişiklikleri ve beyin lezyonlarıyla ilişkisinin araştırılması amaçlanmıştır. Uygulama öncesi kan serumlarında *anti-T. gondii* antikorlarının olmadığı gösterilen 2 aylık 20 adet erkek Swiss albino fareye intraperitoneal yolla 100 *T. gondii* oosisti verildikten 4 hafta sonra, yükseltilmiş artı labirent ve 5 seçenekli radial labirentte anksiyete ve korku ilişkili davranışları *T. gondii* ile enfekte fareler ile kontrol grubu sağlıklı farelerde karşılaştırmalı olarak değerlendirildi. Deney bitiminde (inokulasyon sonrası 45'inci gün) farelere ötenazi yapılarak, beyinleri histopatolojik olarak ve *T. gondii* doku kisti antijeni yönünden immunoperoksidaz test ile incelendi. Sonuçlar; *T. gondii* ile enfekte farelerin daha düşük düzeyde anksiyeteye sahip olduklarını, enfekte olmayan kontrol grubundaki farelere göre daha yüksek oran ve süreyle açık kolu tercih ettiklerini ortaya koydu. Patolojik olarak; enfekte grupta özellikle parietal ve temporal loblar, kornu ammonis, amigdala, talamus ve çevresinde, beyin diğer bölümlerine oranla daha yüksek derecede; gliozis, perivasküler hücre infiltrasyonu, meningitis ve nöron nekrozları gözlemlendi. Beyinde *T.gondii* doku kisti yerleşimi de anılan lezyon şiddeti ile doğru orantılı olarak diğer alanlara oranla daha yüksek sayıdaydı.

Anahtar kelimeler *Toxoplasma gondii*, fare, doku kisti, davranış

Experimental chronic toxoplasmosis model in mice: Brain lesions and related behavioral changes

Abstract Toxoplasmosis is the reason of fatal infections nearly all living beings, besides there is a high percentage that tissue cysts can survive in the brain for the whole life in latent form. It is estimated that there are 500 million people in the world who have met with toxoplasmosis in a period of their life. In contrast to general knowledge on tissue cysts in the brain are not non-reactional, in experimental studies, it has been shown that whether with directly secreted mediators or in comparison with healthy individuals, parasite may give rise to behavioral changes in infected individuals. Generally, while it is expected that rats and mice have fear responses to smell and urine of cats which is hunter for them, mice that carrying tissue cysts of parasite do not have fear response that results as to be an easy prey for cats. With behavioral manipulation, parasite raises possibility of completing its life cycle. In this study, it is aimed to constitute a chronic toxoplasmosis model using *T. gondii* ME49 strain, that is suppose to produce tissue cysts, to compare healthy and infected mice in terms of behavioral changes. Also relationship between behavioral changes and brain lesions was questioned. Before experimental application, *T. gondii* antibody free 2 months old 20 Swiss albino mice were infected by intraperitoneal inoculation of 100 *T. gondii* oocysts. After 4 months, fear and anxiety relational behavioral changes in infected and healthy control groups were comparatively evaluated with elevated plus maze and five choice radial maze. At the end of the experiment (45 day after inoculation) euthanasia was carried out to all mice and their brains were examined histopathologically and immunohistochemically for the presence of *T.gondii* tissue cysts. In conclusion, infected mice had low levels of anxiety furthermore, considering to control groups they have chosen open arm more and have spent much time in there. Pathologically; in infected group, especially parietal and temporal lobes, cornu ammonis, amygdala, thalamus have evident, high rates of gliosis, perivascular cell infiltration, meningitis and neuron necrosis versus the other parts of the brain. Account of this fact, a higher number of tissue cyst formations positively correlated with these lesioned parts of the brain.

Keywords *Toxoplasma gondii*, mice, tissue cyst, behavior

Bir keçide burun içi düşük dereceli adenokarsinom (muhtemel enzootik nazal tümör) olgusu

E. ORUÇ

Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Bu raporda bir keçide rastlanılan burun içi düşük dereceli adenokarsinom olgusu makroskopik, sitolojik ve histopatolojik olarak incelendi. Makroskopik olarak burun ve sinus boşluklarının; sert, yüzeysel jelatinöz ve mat-beyaz neoplastik kitle ile dolduğu gözlemlendi. Sitolojik incelemeler için Papanikola; histopatolojik incelemeler için Hematoksilen-Eozin ve Mason trikrom boyama yöntemleri kullanıldı. Sitolojik incelemelerde nazal orjinli epitelyal hücrelerin yığınlar halinde döküldüğü dikkati çekerken, histopatolojik kesitlerde proliferatif epitel hücrelerinin glandüler bir yapı gösterdikleri belirlendi. Sonuç olarak etmo-turbinal mukozadan köken alan düşük dereceli intranasal adenokarsinom olarak tanımlanan tümörün muhtemel bir enzootik nazal tümör (ENT) olgusu olabileceği düşünüldü.

Anahtar kelimeler Adenokarsinom, enzootik, keçi, nazal tümör, patoloji, sitoloji

Intranasal low grade adenocarcinoma (a possible case of enzootic nasal tumor) in a goat

Abstract A case of intranasal low grade adenocarcinoma in a goat was grossly, cytologically and histopathologically described in this report. Grossly, it was observed nasal and sinusoidal cavities were occupied by firm and opaque-white neoplastic mass with gelatinous surface. Papanicolaou stain for cytology, Hematoxylin-Eosine and Mason trichrome stain for histopathology were used. In cytologic examination, cells from the nasal neoplasm of epithelial origin exfoliated in clusters. Neoplastic tissue sections displayed proliferating epithelial cells organised in a glandular architecture and have low malignancy. Consequently, tumor is described as intranasal low grade adenocarcinoma originated from ethmo-turbinal mucosa and was thought as a possible case of enzootic nasal tumor (ENT).

Keywords Adenocarcinoma, cytology, enzootic, goat, nasal tumor, pathology

Hemorrhagic septicemia in buffalo (*Bubalus bubalis*) calves under sub-tropical conditions in Pakistan

A. KHAN¹, M.K. SALEEMI¹, M.Z. KHAN¹, S.T. GUL¹, M. IRFAN¹, M.S. QAMAR²

¹*Department of Pathology, University of Agriculture, Faisalabad, Pakistan*

²*Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Pakistan*

Abstract Hemorrhagic septicemia (HS) is an acute and often fatal disease primarily occurring in water buffaloes and cattle, but occasionally other domesticated and wild mammals. Buffaloes are more susceptible to HS than cattle. Pakistan, being a sub-tropical region of South Asia has dry hot environment temperature in early summer and hot and humid in late summer, such conditions favor the explosive occurrence of HS. This manuscript deals the lesions based diagnosis and treatment of HS in buffalo calves. At a farm, in urea feeding trail, there were 54 buffalo calves (6-11 months age). Each calf was vaccinated with HS oil based vaccine @ 2 ml S/C in mid June 2009. In August and September, 2009, weather became harsh (temperature 28-45°C) and humid (65.8%). All of a sudden in September, all the calves became ill (morbidity 100%) and started showing signs of HS. Dead animals were subjected to postmortem examination. Morbid tissues were collected, preserved in 10% buffered formalin and processed for histopathological studies. Mortality due to hemorrhagic septicemia was recorded to be 31.48% in buffalo calves. Mortality significantly peaked on 8th day (37%). Elevated body temperature (40.63±0.70°C), profuse salivation, dyspnea, respiratory sound “rales”, ocular discharge, mucus nasal discharge and restlessness were observed as clinical signs. Grossly head, neck and inter-mandible region were congested, edematous with coagulated serofibrinous fluid. Subserosal petechial hemorrhages throughout the body and blood-tinged fluid in thoracic and abdominal cavities were seen. Lungs showed pneumonic changes. Kidneys were swollen and hyperemic. There were petechial hemorrhages on the epicardium. Histopathological examination revealed extensive lung edema, emphysema, thickened alveolar septa, congestion, mononuclear cell infiltration, and edema fluid in bronchioles. Kidneys exhibited glomerulus atrophy, congestion, presence of casts in renal tubules along with pyknosis, condensation of nuclei and necrosis of tubular epithelium. Outbreaks of HS usually occur as catastrophic epizootics in many Asian and African countries resulting in high mortality and morbidity. Very high morbidity and mortality due to HS has been reported in buffalo calves which could be attributed to its acute and sometimes per acute clinical nature. It can be concluded from this study that HS is highly fatal disease, can provisionally be diagnosis based on a combination of clinical signs, gross pathological lesions and a consideration of hot and humid season. Treatment of the affected cases is only effective when treated at an early stage.

Keywords Hemorrhagic septicemia, buffalo calves, morbidity, mortality, gross and histopathology

Comparative study of amyloidogenic potential of AgNO₃ and Freund's Adjuvant (AF) with that of vitamin free casein, on spatio-temporal pattern of experimental amyloidosis in mice

K. JAMSHIDI¹, S. MOSHFEQI², A. DANESHVAR¹

¹*Department of Veterinary Pathology, Faculty of Veterinary Sciences, Islamic Azad University, Garmsar Branch, Garmsar, Iran*

²*Department of Veterinary Clinical Pathology, Faculty of Veterinary Sciences, Islamic Azad University, Garmsar Branch, Garmsar, Iran*

Abstract Reactive amyloidosis is a condition that complicates a long list of chronic inflammation, chronic infectious, malignant, and hereditary disorders. In the present study the potential effects of two amyloidogenic substances: i.e. AgNO₃ and Freund's Adjuvant (AF) with that of vitamin free casein, on spatio-temporal pattern of experimental amyloidosis in mice were compared. For this purpose a total of 40 male Swiss mice, obtained from Pasteur Institute Tehran, after being weighted were randomly divided into 4 groups including 2 treatments, 1 control (vitamin free casein) and 1 positive control (normal saline). At the end of 3rd, 5th and 7th weeks of experiment 3 mice were randomly selected and euthanised. Spleen sample of each animal obtained and preserved in 10% neutral buffer formalin. Sample were then processed through different stages of dehydration, clearing and impregnation and finally embedded in paraffin blocks. Sections of 5 µm thickness then cut and stained by alkaline Congo red techniques. Spleen weights and the data obtained from microscopic quantitative analysis did show no significant differences between groups A and B, A and C, and B and C. But significant differences were observed between groups A and D, B and D, and C and D respectively. It is concluded that two compounds ie; AgNO₃ and Freund's Adjuvant have the same potential, as does vitamin free casein have, in spatio-temporal pattern of experimental amyloidosis in mice.

Keywords Experimental amyloidosis, AgNO₃, Freund's adjuvant (FA), vitamin free casein, mice

Histopathological study of the effect of allicin on experimental lead poisoning in mice

A.R. MOVASSAGHI¹, M.R. ASLANI², A. GORGANZADEH³

¹*Department of Clinical Sciences, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

²*Department of Pathobiology, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

³*Graduated DVM, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

Abstract Lead is an important toxic agent in nature which affects various tissues and organs in human beings and animals. It is a highly toxic agent and has been shown to produce a wide range of biochemical and physiological dysfunctions. Lead intoxication has been known as a health threatening disease in recent decades. In this study, the protective effects of allicin were evaluated histopathologically in experimental lead poisoning in mice. Twenty four female mice were randomly divided into four groups of six animals each. All mice were exposed to 100 mg/kg lead acetate solution subcutaneously. Group 1 received no treatment and served as control. Groups 2, 3, and 4 received allicin at doses of 1000 ppm, 2000 ppm and 4000 ppm respectively, in their drinking water two days before and ten days after lead exposure. All the animals were euthanized and tissue samples from heart, brain, liver, kidney and spleen were fixed in 10 per cent neutral buffered formalin, and tissue sections were prepared for histological examination. Histopathological examination of tissue specimens in group 1 revealed severe congestion, perivascular and perineuronal edema, laminar neuronal necrosis and hemorrhage in the brain. There were congestion, muscle fiber necrosis and infiltration of lymphohistiocytic cells in the heart. Kidneys showed various degrees of congestion, acute tubular necrosis and acid-fast intranuclear inclusion body. There were also congestion, hepatocellular degeneration and necrosis with acid-fast intranuclear inclusion bodies in the liver. In Groups 2 lesions were similar to group 1 but milder and more confined. In groups 3 and 4, lesions were confined to congestion and mild degeneration without acid-fast intranuclear inclusion body. The results of the present study indicate that allicin could reduce the severity of the lesions in different tissues induced by lead poisoning in mice which appears to be dose dependent.

Keywords Allicin, lead poisoning, mice

The toxicity with *Thapsia garganica* in rabbits

M.A.M. SHARIF, E.M. AL FAZANI, W.M. JOUNIS

Faculty of Veterinary Medicine, University of Omar Al-Mukhtar, Albeida, Libyan Arab Jamahiriya

Abstract *Thapsia garganica* is a long lived plant that can be height of 2-3 feet and spreads wide in mountainous terrain and slopes of the basin of the Mediterranean, including the Green Mountain. The plant is known as toxic plant to human and many animals, and especially the high toxicity to the small ruminants. For more information on toxic effect of the plant, it has been tested on rabbits as experimental animals. We gave the green plant as well as the dry seeds for 12 rabbits in different doses and different periods, and noting the clinical symptoms resulting from that as well as support research by many blood tests and postmortem and histopathological examinations. The most important changes that have been observed are the cases of abortion and early death of births, and have been assigned to the effect of the toxicity by *Thapsia garganica*. Plasma calcium levels were clearly changed, and many toxic effect on the essential organs as liver was observed. Therefore we publish in this paper a study on the toxicity of *Thapsia garganica* in rabbits, and we confirm the role of this green plant as an abortifacient in rabbits, and discuss the cause of death in other animals according to our results.

Keywords *Thapsia garganica*, thapsigargin, toxic plants, rabbits

Lysine induced modulation of toxico-pathological effects of cottonseed meal in broiler breeder males

F. MAHMOOD¹, M.Z. KHAN², A. KHAN¹, G. MUHAMMAD², I. JAVEDB³

¹Department of Pathology, University of Agriculture, Faisalabad, Pakistan

²Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan

³Department of Physiology and Pharmacology, University of Agriculture, Faisalabad, Pakistan

Abstract Cottonseed meal (CSM), a by-product obtained after oil extraction from cottonseeds, contains about 222.0 to 560.2 g.Kg⁻¹ total proteins and 7.4 to 11.99 MJ.Kg⁻¹ metabolizable energy. Incorporation of CSM in poultry feed is limited due to presence a toxic polyphenolic substance “free gossypol”. Scanty information about toxico-pathological effects of CSM upon chicken’s male reproductive system and its amelioration by lysine is available. Therefore, this study deals with toxico-pathological effects in broiler breeder males by inclusion of different levels of CSM and modification of these effects by dietary supplementation of lysine. A total of 80 broiler breeder males (Starbro), aged 40 weeks, having similar body weight and apparently free from any clinical ailments, were procured from a local farm. All the birds kept in wire cages at ambient temperature (23 to 26°C). Daily light/dark cycle was 16/8 hours. Fresh water was available *ad libitum*. After a week of acclimatization, birds randomly divided into 8 equal groups. Broiler breeder males fed diets containing cottonseed meal (CSM) from 10-30% and lysine (2%) to explore the toxic effects on male reproductive performance. The data analyzed by applying randomized complete block design. A significant ($P \leq 0.05$) decrease in body weight, comb area and vent size was observed in 20 and 30% CSM fed groups. A decrease in serum testosterone, semen volume and sperm counts occurred with the increase in dietary level of CSM. Testes volume, absolute and relative weights were significantly ($P \leq 0.05$) lower in all the treated groups. Testes of males kept on ration containing up to 20% CSM fed groups did not show any pathological lesions. Histologically, testes of 30% CSM fed birds exhibited increased intertubular connective tissue proliferation. In most of the tubules, round spermatids had necrotic nuclei. In some birds, seminiferous tubules had smaller diameter than those of birds of control group. These tubules were having with 1-2 layers of cells having vesicular nuclei with a nucleolus and fine chromatin. All levels of CSM incorporated in diets of broiler breeder males had adverse effects on the reproductive performance. Lysine supplementation in the ration only partially alleviated the deleterious effects of CSM upon weight gain, comb area, vent length, semen volume and sperm count, however, toxic effects of lysine upon testes weight, volume and testosterone concentration were observed when administrated in feeds having 0 or 10% CSM.

Keywords Cottonseed meal, lysine, broiler breeder cocks, semen characteristics, serum testosterone, testicular pathology

Preliminary study of the dorsal root ganglion pathology in the horse

F. SASANI¹, S.N. COLLINS², K. MATIASEK³

¹*Department of Veterinary Pathology, Faculty of Veterinary Medicine, University of Tehran, Iran*

²*Equine Center, Animal Health Trust, Newmarket (AHT), UK*

³*Neuropathology Section of Animal Health Trust (AHT), Newmarket, UK*

Abstract Pain which is resistant to analgesic therapy is the single most important cause of suffering and euthanasia in laminitic horses. The involvement of neuropathic mechanisms has been proposed, however there are no reports on the histological appearance of the dorsal root ganglia (DRG) that convey the sensory inputs of the affected limb. The present report features the DRG changes observed in one case of CEL. This investigation enrolled the front feet and the DRG of cervical segments IV and VII in one horse suffering from CEL and an age matched control that was sacrificed for an unrelated fatal disease. Presence/absence of laminitis was confirmed after sagittal sectioning of the feet according to standard protocols. The DRG were extracted after laminectomy, immersed in formalin and routinely processed for paraffin histology. Histological evaluation was carried out after haematoxylin & eosin staining. All histopathological changes were recorded and semiquantitatively scored. Moreover the density of neurons, satellite cells and of lymphocytes was obtained from photomicrographs using a cell counter plugin for ImageJ NIH software. The nerve cell diameter distribution was evaluated after manual delineation of the neuronal bed in 250 cells each. Phenotyping of the DRG cells was performed by substance P, calcitonin-gene related protein (CGRP), S-100, CD3 and CD79a immunohistochemistry. Neuronal cell death was tested by FluoroJade C staining. All numerical data were collected and statistically evaluated. Compared to the control DRG, there was a significant loss of small neurons. There was so an increase in degenerating neurons and Nageotte bodies in the affected horse. The remaining neurons of the CEL, DRG showed no differences in Substance P expression between C4 and C7 but there was an upregulation of CGRP in C7 more than in C4. Satellite cell number and density corresponded to neuronal damage/loss. In affected and unaffected DRG only CD3 positive lymphocytes were T-cells per neuron in C7 more than in C4. Laminitis influences the DRG composition in directly involved segments and areas that do not receive sensory inputs from the affected foot. Within affected segment, CEL leads to nerve cell degeneration with predominance of small neurons. Loss is accompanied by phenotypic switch with raised CGRP. Neuropathic pain in CEL is associated with changes to DRG anatomy and gene expression. Neuropathic mechanisms are not responsive to conventional therapies and more research is necessary for identification of new therapeutic targets.

Keywords DRG, horse, laminitis, neuropathic pain, immunohistochemistry

Beş keçide gözlenen enzootik nazal adenokarsinomda klinik, patolojik, immunohistokimyasal ve elektron mikroskopik incelemeler

Ö. ÖZMEN¹, Ş. ŞAHİNDURAN², M. HALIGÜR¹, N. DEMİR³

¹Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Antalya

²Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Antalya

³Akdeniz Üniversitesi, Tıp Fakültesi, Histoloji, Embriyoloji ve Temga Anabilim Dalı, Antalya

Özet Bu çalışmanın amacı, 5 keçide Enzootic Nazal Adenokarsinomun klinik, patolojik, immunohistokimyasal ve elektron makroskopik olarak incelenmesi ve bu tümörlerin değişik markırlar ile immunoreaktivitesinin incelenmesidir. Bu çalışmada tümörlerin histopatolojik incelemesinde tubuler, papiller ve asiner subtipler teşhis edildi. Tümör interstiyel hücreleri S100, NSE, SMA ve Vimentin ile epitel hücreleri ise PCK, CEA ve GCDFP ile pozitif reaksiyon verdi. Caspase-3, Ki-67 ve PCNA ile hem epitel hemde interstiyel hücrelerde pozitif reaksiyon saptanırken, AFP bütün hücrelerde negatif reaksiyon gösterdi. Immunohistokimyasal incelemesi sonucunda ENA'da hem epitel hemde interstiyel hücrelerde artış olduğu PCNA ve Ki-67 artışı ile saptandı. Elektron makroskopik incelemede neoplastik epitel hücrelerinde retrovirus-benzeri yapılar saptandı. Bu çalışma aynı zamanda Türkiye'de keçilerde saptanan ilk ENA olgusudur.

Anahtar kelimeler Keçi, enzootik nazal adenokarsinom, patoloji, immunohistokimya, elektron mikroskop

Clinical, pathological, immunohistochemical and ultrastructural observations on enzootic nasal adenocarcinoma in five goats

Abstract The objectives of this study were to evaluate clinicopathological, immunohistochemical and electron microscopical findings of Enzootic Nasal Adenocarcinoma (ENA) in five goats and examine the immunoreactivity of these tumors with different markers. At the histopathological examination, tubular, papillary and acinar subtypes were diagnosed in this study. Tumor interstitial cells strongly expressed S100, Neuron Specific Enolase (NSE), Smooth Muscle Actin (SMA) and Vimentin, epithelial cells were positive for Pancytokeratin (PCK), Carcinoembryonic Antigen (CEA) and Gross Cystic Disease Fluid Protein (GCDFP). Both interstitial and epithelial cells strongly expressed Caspase-3, Ki-67 and proliferating cell nuclear antigen (PCNA); both interstitial and epithelial cells were negative for Alpha Fetoprotein (AFP). Immunohistochemical observations revealed that ENA consisted of both epithelial and mesenchymal cell proliferations based on the increased PCNA and Ki-67 positive reaction of these cells. Electron microscopical studies revealed the presence of the retrovirus-like particles in the cytoplasm of neoplastic epithelial cells. At the same time, this study is the first report of ENA cases from Turkey.

Keywords Goat, enzootic nasal adenocarcinoma, pathology, immunohistochemistry, electron microscopy

Holstein buzağıda buzağı tipi (juvenil) sporadik sığır lökozu

E. ORUÇ

Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Bu raporda 7 aylık Holstein bir buzağıda Lenf düğümleri ve bazı parenkimal organların büyümesiyle karakterize sporadik sığır lökozu olgusu tanımlandı. Tümör hücrelerinin prelenfositik zayıf diferensiyasyon ve muhtemelen B hücrelerinden köken almadığı tespit edildi. Sitolojik olarak malign yuvarlak hücreli olarak tanımlanan tümörün histopatolojik incelemesinde lenf düğümleri, karaciğer ve dalağın düşük mitotik indeksli, küçükden büyüğe lenfositik ve lenfoblastik hücrelerle şiddetli infiltrasyonu görüldü. B hücreleri için yapılan Methyl green pyronine histokimya boyaması ve Enzootik sığır lökozu için yapılan ELISA testi negatif bulundu. Sonuç olarak vaka, sporadik sığır lökozu olarak tanımlandı.

Anahtar kelimeler Buzağı, histokimya, patoloji, sitoloji, sporadik sığır lökozu

Calf type (juvenile) sporadic bovine leukosis in a Holstein calf

Abstract Multisystemic enlargement of lymph nodes and some parenchymal organs were observed in 7 months old Holstein calf in this study. Tumor cells were prolymphocytic poorly differentiated type and probably not originated from B cells. It was cytologically diagnosed as malignant round cell tumor. Histopathological examination revealed that lymph nodes, liver, spleen were all extensively infiltrated by small to large sized, lymphocytic and lymphoblastic cells with low mitotic index. Methyl green pyronine histochemistry for B cells and serological diagnosis of enzootic bovine leukosis by ELISA was negative. It was described as calf type Sporadic Bovine Leukosis.

Keywords Calf, cytology, histochemistry, pathology, sporadic bovine leukosis

Bir kedide fibrosarkomatozis

H. KELEŞ¹, O. KUTSAL², Ö. BEŞALTI³

¹*Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar*

²*Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara*

³*Ankara Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Ankara*

Özet Bu çalışmada, 9 yaşlı, melez, dişi bir kedide gözlenen fibrosarkom nüks ve metastazları ile birlikte tanımlandı. Hayvan torakal bölgede bir kitle şikayeti ile getirildi. Total ekstirpasyona rağmen kitle iki ay sonra tekrar nüks etti ve tekrar total olarak uzaklaştırıldı. İlk operasyonu takiben dördüncü ayda aynı bölgede nüks ve sternum üzerinde yeni bir kitle şikayeti ile hayvan üçüncü kez getirildi, ancak hayvan sahibi yeni müdahalelere izin vermedi. İlk operasyondan bir yıl sonra birçok yeni odak şekillenen ve genel durumu bozulan hayvan ötenazi edildi. Nekropside, torakal, sternal ve abdominal bölgelerde ve ayrıca, boyun ile ön ve arka ekstremitelerde subkutan yerleşimli ve yer yer de kaslara invaze olmuş, değişen büyüklüklerde 26 adet kitle tespit edildi. Bunun yanısıra akciğere yayılmış tarzda çokça grimsi-beyaz odakta mevcuttu. Histolojik incelemede, biyopsi materyalleri ve yukarıda tanımlanan kitlelerde fibrosarkom tanımlandı.

Anahtar kelimeler Kedi, fibrosarkom, metastaz, nüks

Fibrosarcomatosis in a cat

Abstract Fibrosarcoma is defined along with recurrences and metastases in a 9-year-old female crossbred cat in this study. The animal was referred with the complaint of a mass in the left thoracic region. Although the total extirpation, the mass recurred two months later and this mass were totally removed too. Four months later for first intervention, recurrence in the same region and the formation of a new mass on the sternum were determined for the third time. Due to the generation of new foci in various regions, a year after the first operation the animal was euthanized. At the necropsy, 26 masses of various sizes were found subcutaneously located and partially invaded between muscles in the thoracic, sternal and abdominal regions and also neck, front and rear extremities. Furthermore many grayish white masses were scattered in the lungs. At the histopathological examination, biopsy materials and neoplastic structures which described above were diagnosed as fibrosarcoma.

Keywords Cat, fibrosarcoma, metastasis, recurrence

Bir kedinin parotid tükrük bezinde kistadenokarsinom

N. YUMUŞAK¹, M. ÇALIŞKAN², **A.S. COŞKAN**³, O. KUTSAL³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Ankara Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Tükrük bezi tümörleri köpek ve kedilerde oldukça ender görülmekte ve bütün tümörler arasında %0,17'lik bir orana sahiptirler. Genellikle 10 yaş ve üstü, köpek ve kedilerde karşılaşırlar. Asinik hücreli karsinomalar ve adenokarsinomalar bu tümörler arasında yaygın görülen tümörlerdir. Kistadenokarsinomalar ise köpek ve kediler arasında oldukça ender karşılaşılan tümörler olup insanlarda kistadeokarsinomlar ve papillar kistadenokarsinomalar tükrük bezi tümörlerinin %2-4.7'sini oluşturmaktadır. Bu çalışma ile daha çok insanlarda görülen, köpek ve kedilerde ise oldukça ender olarak karşılaşılan parotid bezinin kistadenokarsinomu tanımlanmıştır. Çalışmanın materyalini, yemede güçlük, aşırı salya akıntısı, sol kulak altında şişlik şikayetleri bulunan 20 yaşlı, dişi, tekir bir kedinin sol kulak altından uzaklaştırılan biyopsi örneği oluşturdu. Makroskobik olarak, 27 gr ağırlığında, 6x4x3 cm boyutlarında, üzeri deriyle kaplı ve fluktuan kıvamlıydı. Kesit yüzü ise içlerinde seröz bir sıvının olduğu çok sayıda farklı büyüklüklerde kistik yapılar görüldü. Doku örneği rutin doku takibine alınarak Hematoksilen-Eosin (HE), Periodic acid-schiff (PAS) ve Masson'un Trikrom yöntemleriyle boyandı. Histolojik olarak; ince ve yer yer hyalinize olmuş bir stromayla çevrelenmiş bez yapılarının oldukça genişlemiş oldukları, bu bezlerin çift sıralı, eozinofilik sitoplazmalı farklı oranlarda atipi gösteren hücrelerle döşeli olduğu görüldü. Bazı genişlemiş bez yapılarının lumenlerinde HE ve PAS boyamalarında eozinofilik salgı materyalinin olduğu görüldü. Gerek köpek ve kedilerde parotid bezinde görülen tümörler hakkında yeterli literatür olmaması gerekse hayvanın yaşının bilinen verilerden daha yaşlı olması ile Türkiye'de ilk kez tanımlanan bu tümör yapılacak çalışmalara ışık tutacaktır.

Anahtar kelimeler Kedi, kistadenokarsinom, parotid bezi

Cystadenocarcinoma in a parotid salivary gland in a cat

Abstract The salivary gland tumours is extremely rare in dogs and cats and account for %0.17 in all tumor generally seen on 10 and older. Acinic cell carcinoma and adenocarcinoma is more common in salivary gland tumor. Cystadenocarcinoma and papillary adenocarcinoma are responsible for 2-4.7 % in humans. Cystadenocarcinoma is seldomly seen in dogs and cats as compared to humans. In the study, gland cystic adenocarcinoma of parotid salivary is described pathomorphologically in a cat. The biopsy, were excised from behind of left auricula in operation, reffered into clinics with the history oh disphagia, hypersalivation, swelling in left ear of a 20 year old, female, cross breed cat. Macroscopically, it was weighed of 27 g and diametered in 6x4x3 cm. The mass was covered with skin and fluctuant. On cut section, there were multiple

cysts filled with serous fluid. After macroscopical evaluation, tissue samples were processed routinely, stained with HE, PAS and Masson's Trichrome stainings. Histopathologically, the glands were enlarged and separated by thin and fibrous stroma, some of which were hyalinized. Glands were lined with double-layered cells which had eosinophilic cytoplasm and nuclear atypia. In the lumina of some enlarged glands, eosinophilic secretions were determined in HE and PAS staining. The tumor has been first described in Turkey. It is believed that this study enlightens other studies in tumors of salivary glands, because there is insufficient knowledge about tumors in cats and the older than the others.

Keywords Cat, cystadenocarcinoma, parotid gland

Genç kuzularda akut verminöz meningoensefalitis

M.K. ÇİFTÇİ, Ö. ÖZDEMİR, M. ORTATATLI, F. HATİPOĞLU, Ö. KANAT

Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

Özet Bu raporda, 2-5 aylık kuzuların bulunduğu bir sürüde akut coenurosis olguları tanımlandı. Anamnezde sürüde bir süredir yaygın inkoordinasyon, titreme, başını bir yerlere dayama gibi sinirsel semptomların görüldüğü ve etkilenen hayvanların 2-3 gün içerisinde öldüğü bildirildi. Aynı şikayetlerle kliniğe getirilen biri 2,5 diğeri 4,5 aylık iki kuzunun canlı muayenesini takiben kesin tanı amacıyla nekropsileri yapıldı. Makroskopik olarak beyinde meninkslerde, özellikle girusların üzerinde sarımtırak renkte eksudat gözlemlendi. Birinci kuzunun sol hemisferinde, içerisinde skoleks bulunan ceviz büyüklüğünde bir kist ile her iki kuzunun beyin ve beyinciklerinin kesit yüzlerinde mercimekten nohut büyüklüğüne varan çok sayıda kist dikkati çekti. Beyin kökünün kesit yüzünde ise, içlerinde 3-6 mm çapında ve belirgin bir zarla çevrili kist bulunan (ilk kuzuda 3, ikinci kuzuda 4 adet) sarımsı-gri renkte erime alanları gözlemlendi. Histopatolojik incelemede beyin, beyincik ve beyin kökünde, bazılarında parazite ait kist zarının da görüldüğü likefaksiyon nekrozu, kanama, fibrin, nekroz çevresinde yabancı cisim dev hücreleri, nötrofil ve eozinofil granülositler ile mononükleer hücre infiltrasyonu alanları dikkati çekti. Ayrıca bazı kesitlerde tünel tarzında yıkımlanma ve kanama bulunan parazit (metasestod) göç yolları görüldü. Meninksler ve beyin parankiminin genelinde perivasküler mononükleer hücre ve eozinofil granülosit infiltrasyonları tespit edildi. Çeşitli kaynaklarda, parazitin biyolojisinde invazyondan 10-14 gün sonra larvaların sinir sistemine ulaşarak, larva göçüne ilişkin beyin dokusunda kanamalar, meninkslerde sarımtırak izler şekillendiği bildirilmektedir. Larvaların 28. günde nohut büyüklüğüne, 38. günden itibaren de kiraz büyüklüğüne ulaştığı ve skolekslerin görülmeye başladığı, 4-5 cm çapındaki olgun kistlerin ise enfeksiyondan 4-8 ay sonra şekillendiği kaydedilmektedir. Genelde olduğu gibi larva göçleri hemisferlerde ve 1 veya 2 kistle sınırlı ise klinik belirtiler hafif geçmekte ve bu dönem atlatıldıktan 4-8 ay sonra kistlerin olgunlaşmasına ilişkin hastalığa has tipik sinirsel belirtiler ortaya çıkmaktadır. Bazı olgularda ise bu sunumda olduğu gibi, özellikle de gençlerde larva invazyonunun yoğun olduğu ve larva göçlerinin hemisferlerden ziyade beyin kökü ve/veya serebellum gibi hayati önemi daha yüksek bölgelerde olduğu durumlarda ise şiddetli klinik belirtilerin, hatta ölümlerin görüldüğü kaydedilmektedir.

Anahtar kelimeler Kuzu, verminöz, meningoensefalitis, coenurosis

Acute verminous meningoencephalitis in young lambs

Abstract In this report, the cases of acute coenurosis were described in 2 to 5 months-old lambs in a herd. In history, affected lambs showed symptoms of nervous system such as incoordination, tremor, leaning the head to an object, and then they died within 2-3 days. Two lambs, one 2.5 month-old and other 4.5 month-old, with the same symptoms were examined clinically, and then their necropsy were performed to

aim of the diagnosis. Macroscopically, yellowish exudates were seen in meninx and gyrus. There was a cyst, walnut sized and containing scolexes in left hemisphere of first lamb. A lot of cysts, sized from lentil to chickpea were determined on cut surface of brain and cerebellum in both lambs. Yellowish-grey coloured lytic areas (malacia) containing cysts, 3-6 mm in diameter and surrounded by a distinct membrane were detected in the basis of brain. Microscopically, necrotic areas, remain of cyst membrane, hemorrhage and fibrin were seen in cerebrum, cerebellum and the basis of brain. Giant cells, neutrophil and eosinophil granulocytes with mononuclear cells were detected in surround of the necrosis. Besides, hemorrhage and destruction areas like tunnel due to parasitic migration were seen in some slides. Perivascular mononuclear cells and eosinophil granulocytes were found in meninx and parenchyma of brain. In biology of the parasite, 10-14 days after invasion, hemorrhages in brain and yellowish defect in meninx related to larval migration have been recorded in different data. Larval form reaches to chickpea size on 28th day and to cherry size on 38th day, and starts to contain scolex from this time, and then 4-5 cm in diameter matured cyst occurs at 4-8 months after the infection. If larval immigration is limited to 1 or 2 cysts only in the hemispheres, as in general, mild clinical symptoms are seen, and the typical neural symptoms peculiar to the disease appear relating to maturation of cysts 4-8 months later. It is recorded that in some cases as in this presentation, serious clinical symptoms and even deaths are seen in the conditions that larval invasion is dense especially at young ones and larval immigrations are on medulla oblongata and/or cerebellum, which has vital importance, not on the hemispheres.

Keywords Lamb, verminous, meningoencephalitis, coenurosis

Asphodelus aestivus* tohumları yedirilen koyunlarda nöronal lipofuskinozis üzerine patolojik ve biyokimyasal arařtırmalar

S.S. BİRİNCİOĞLU¹, H. AVCI¹, B. BİRİNCİOĞLU², H. AKŞİT³, E.T. EPIKMEN¹, A. AYDOĞAN¹, W. SCHMAHL⁴

¹*Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın*

²*Adnan Menderes Üniversitesi, Ziraat Fakültesi, Zoekni Bölümü, Aydın*

³*Adnan Menderes Üniversitesi, Veteriner Fakültesi, Biyokimya Anabilim Dalı, Aydın*

⁴*Ludwig-Maximilians-University, Faculty of Veterinary Medicine, Department of General Pathology & Neuropathology, Institute of Animal Pathology, Munich, Germany*

Özet Bu çalışmada, Ege Bölgesindeki meralarda yaygın olarak bulunan *Asphodelus aestivus* (*A. aestivus*) tohumlarının koyunlara oral yolla verilerek nöronal lipofuskinozis oluşturulması ve bunun koyun ölümleri ile ilişkilerinin araştırılması amaçlandı. Bu amaçla, her birinde iki koyun bulunan üç deneme grubu (Grubu I, II, III) ve bir kontrol grubu (n: 3) oluşturuldu. Bireysel koyun kafeslerinde yürütülen çalışmada; deneme gruplarına sırası ile % 5, % 10 ve % 15 oranında *A. aestivus* tohumları içeren toklu yemlerinden toplam 600 gr/günlük yem dört ay süreyle yedirildi. B planı kapsamında, deneme gruplarına iki ay daha tohum oranları yükseltilmiş (% 15, % 20 ve % 35) yeni rasyonla yemlemeye devam edildi. Altı aylık deneme süreci sonunda, sodyum pentobarbütal ile ötanazi edilen koyunların nekropsileri yapıldı. Tüm dokulardan alınan örnekler % 10'luk nötral formalinde tesbit edildi. Bilinen yöntemlerle hazırlanan kesitlere çeşitli histokimyasal boyamalar uygulanarak ışık mikroskopunda; boyanmamış kesitler ise floresan mikroskopta değerlendirildi. Ayrıca pons, medulla oblongata ve yeyunumdan hazırlanan ultrastruktural kesitler elektron mikroskopunda incelendi. Histopatolojik incelemede, deneme gruplarında özellikle beyin sapının motor nöronlarında sarı-kahverenginde granüler pigmentler saptandı. Pigmentasyon yoğunluk sırasına göre pons, medulla oblongata, serebellar pedikül ve krus serebride saptandı. Benzer pigment granülleri yeyunumda; submukoza ve tunika muskularisin pleksuslarında da görüldü. Floresan mikroskopta pigmentlerin tamamı floresan pozitif yansımalar verdiler. Ultrastruktural incelemede, lipofuskin pigmenti nöronların perikaryal sitoplazmasında, intralizozomal kümeler halinde düzensiz şekilli, büyüklükleri 0.5-2.5 µm arasında değişen elektron-dense şeklinde görüldü. Tüm koyunlardan periyodik alınan kanların biyokimyasal parametreleri spektrofotometrede hazır kitlerle kolorimetrik olarak tayin edildi. Parametreler değerlendirildiğinde; hem deneme-kontrol grupları hem de deneme-deneme grupları arasında önemli bir farklılık belirlenemedi. Sonuç olarak; bu araştırma ile *A. aestivus*'un koyunlarda nöronal lipofuskinozise neden olduğu deneysel olarak ilk kez ortaya konuldu.

Anahtar kelimeler Nöronal lipofuskinozis, *Asphodelus aestivus*, patolojik bulgular, biyokimyasal parametreler, koyun

*Bu çalışma TÜBİTAK tarafından desteklenmiştir (Proje no: 107 O 608).

Pathological and biochemical investigations on the neuronal lipofuscinosis in sheep fed with *Asphodelus aestivus* seeds*

Abstract The aim of this study was to produce neuronal lipofuscinosis by feeding sheep orally with *Asphodelus aestivus* (*A. aestivus*) which is abundant in pastures in Aegean region and to investigate its relation with deaths in sheep. For this purpose, three experiment (Group I, II, III) each contain 2 sheep and one control group (n: 3) were constituted. In the study conducted in individual sheep cages, the experiment groups were fed commercial food containing *A. aestivus* seeds at the rates of % 5, % 10 and % 15 for four months. The amount of feed was 600 g per day. In the framework of B plan, experiment groups continued to be fed new rations with increased seed rates. (% 15, % 20 ve % 35). At the end of the six month of experimental period, sheep were euthanized with sodium pentobarbital, then necropsy examinations were performed. Specimens obtained from all tissues were fixed in 10 % neutral formalin. Sections were prepared with standard methods and various histochemical procedures were performed, and sections were examined under light microscope. Unstained deparaffinized sections were also examined under fluorescent microscope. In addition, ultrastructural sections taken from pons, medulla oblongata and jejunum were processed for transmission electron microscopic investigations. In histopathological examination, yellowish-brown pigment granules were detected in experiment groups, especially motor neurons of brain stem. Pigmentation was found in decreasing order of intensity in pons, medulla oblongata, cerebellar peduncle and crus cerebri. Similar pigment granules were also seen plexus of submucosa and tunica muscularis in the jejunum. In fluorescent microscope, all pigment granules were brightly autofluorescent on fluorescence microscopy. In ultrastructural examination, lipofuscin pigment was seen in perikaryal cytoplasm of neurons in the form of electron-dense intralysosomal clusters with irregular shape and at the size of 0.5-2.5 μm . Biochemical parameters of blood collected periodically from the sheep were determined colorimetrically in spectrophotometer with commercial kits. In the evaluation of parameters, no significant difference was found between experiment-control groups and between experiment-experiment groups. In conclusion, in the present study, it was demonstrated experimentally for the first time that *A. aestivus* led to neuronal lipofuscinosis in sheep.

Keywords Neuronal lipofuscinosis, *Asphodelus aestivus*, pathological findings, biochemical parameters, sheep

*This study was supported by TÜBİTAK (Project no: 107 O 608).

Sığır leptospirozunun patogenezinde ubiquitin ve 8-hidroksiguanozinin rollerinin immunohistokimyasal yöntemlerle araştırılması

M. KARAMAN¹, H. ÖZEN¹, S. DAĞ ERGİNSOY¹, M. ŞAHİN²

¹Kafkas Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kars

²Kafkas Üniversitesi, Veteriner Fakültesi, Mikrobiyoloji Anabilim Dalı, Kars

Özet Bu çalışmada, *Leptospira* spp. ile doğal enfekte 7 adet sığırdaki şekillenen patolojik bulgular tanımlanarak, karaciğer ve böbrek dokularında oluşan hasarın patogenezinde ubiquitin ve 8-hidroksiguanozinin (8-OHG) rolleri indirekt immunoperoksidaz metoduyla araştırılmıştır. Makroskopik incelemelerde; sarılık, anemi, böbreklerde beyaz renkte odaklar, karaciğer, akciğer, kalp, mezenteriyel ve mediastinal lenf düğümlerinde peteşiyel kanamalar gözlemlendi. Mikroskopik bakıda; karaciğer ve böbreklerde nekroz ve buna eşlik eden mononükleer hücre infiltrasyonu tespit edildi. Leptospirozlu hayvanların karaciğer hepatositleri ve böbrek tubul epitellerinde ubiquitin antikoruyla karşı intrasitoplazmik immün boyanma belirlendi. 8-OHG immün boyanmasının, karaciğer hepatositlerinde intrasitoplazmik ve/veya intranükleer, böbrek tubul epitellerinde ise çoğunlukla intrasitoplazmik olarak lokalize olduğu gözlemlendi. Sonuç olarak; *Leptospira* patogenezinde, doku hasarı oluşumunda ubiquitin ile 8-OHG'nin rol oynadığı ortaya konuldu.

Anahtar kelimeler Leptospiroz, ubiquitin, 8-hidroksiguanozin, sığır

Immunohistochemical investigation of the role of ubiquitin and 8-hydroxyguanosine in pathogenesis of cattle leptospirosis

Abstract In this study, pathological findings were described, and the role of ubiquitin and 8-hydroxyguanosine (8-OHG) expression in liver and kidney tissue damage was investigated by indirect immunoperoxidase staining method in 7 naturally *Leptospira* spp. infected cattle. In gross examination, icterus, anemia, white spots on kidneys and petechial hemorrhages in livers, lungs, hearths, mesenteric and mediastinal lymph nodes. In microscopic view, necrosis and accompanying mononuclear cellular infiltration were detected in livers and kidneys. Immunohistochemistry showed an intracytoplasmic staining against ubiquitin antibody in liver hepatocytes and kidney tubule epithelia. Immunostaining for 8-OHG was intracytoplasmic and/or intranuclear in liver hepatocytes while it was mainly intracytoplasmic in kidney tubule epithelia. In conclusion, ubiquitin and 8-OHG were shown to play roles in pathogenesis of cattle leptospirosis.

Keywords Leptospirosis, ubiquitin, 8-hydroxyguanosine, cattle

Koyunlarda PrPsc'nin hemal d g mlerde tiplendirilmesi ve tanımı*

M. .  zyiđit¹, D. SCHNEIDER², T. TRUSCOTT², K.I. O'ROURKE²

¹Uludađ  niversitesi, Veteriner Fak ltesi, Patoloji Anabilim Dalı, Bursa

²Animal Disease Research Unit, Agricultural Research Service, United States Department of Agriculture, Pullman, Washington, USA

 zet Birçok  lkede endemik olan Scrapie Transmissible Spongiform Ensefalopati (TSE) olarak adlandırılan enfeksiy z hastalıklar grubunun bir  yesidir. Hastalıđa neden olan prion, merkezi sinir sistemine ulařmadan  nce, bađırsak ile ilgili lenfoid dokuda ve daha sonra lenforetik ler sistemin diđer dokularında g zlenmektedir. TSE iliřkili prionun kesin dađılım mekanizması tam olarak anlařılamamıřtır. Koyunlarda Scrapie hastalıđının mekanizmasında hemal d g mlerin rol ne ait bir bulgu olmadıđından, bu alıřmada koyunların antijenik yapısı ve hemal d g mlerde Scrapie antijen birikimi ile eđer h cre tipleri ve Scrapie etkeni arasında bir iliřki varsa immunohistokimya ile g stermek amaanmıřtır. Hemal d g mler, ruminantlarda abdominal ve torasik bořluklara yerleřmiř sadece kan dolařım sisteminde bulunan, lenfatik damarlardan yoksun, lenfoid organlardır. Kanın filtrasyonu ve erirofagositoziste g rev aldıklarından dolayı b y k kan damarları boyunca bulunurlar. alıřma sırasında,  tenazi  ncesi rektal biyopside Scrapie'ye karřı Ab 169/99 antikoru ile pozitif olarak belirlenen 19 adet scrapie ile enfekte diři koyun ile 3 adet kontrol amacı ile sađlıklı hayvan kullanıldı. Retrofarengial lenf yumruları ile omurganın her iki tarafından g g s ve karın bořluđundaki hemal d g mler toplandı. H cre fenotiplerinin aıđa ıkarılması amacı ile T h creler iin CD3 (AO452), B h creler iin CD21(BAQ25), Folik ler dendritik h creler (FDC's) iin CD45R (BAQ36A) ve makrofajlar iin CD163 (MCA1853) ve CD172a (DH59B), PrPsc iin de Ventana 99 (V99) ve L42 ile dual-ikili immunoistokimyasal boyamalar yapıldı. Fenotipik boyanma  zellikleri aısından retrofarengeal lenf yumruları ve hemal d g mler arasında benzerlik g zlendi. Hemal d g mler PrPsc pozitif hayvanlarda her zaman PrPsc pozitif boyanma sonucu vermedi (Hastalıđın d nemi, genetik  zellikleri ve evresel fakt rlerden dolayı). Hemal d g mlerinin germinal merkezlerinde T h cre, B h cre ve FDC's lerin dominant h creler olduđu g zlendi. MCA1853 ve V99 ile MCA1853 ve L42 antikorumla ile yapılan dual boyamalarda kolokalizasyon g zlenirken AO452, BAQ25, BAQ36A ve V99/L42 antikorumla ile yapılan boyamalarda sadece lokalizasyon g zlendi. İmmunohistokimyasal alıřmalar PrPsc antijenin hemal d g mlerde tutulmasının h cresel ve humoral bir cevap ile takip edilebileceđini ve hemal d g mlerde PrPsc birikiminin PrPsc nin hematojen yayılımı iin bir kaynak olabileceđini ortaya koymaktadır.

Anahtar kelimeler Scrapie, hemal d g m, makrofaj, MCA1853

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Hemal node cellular phenotyping and description of PrPSc in sheep*

Abstract Scrapie, which is endemic in various countries, is a member of infectious disease group called transmissible spongiform encephalopathies (TSE's). Before reaching the central nervous system, the prion has been observed in gut associated lymphoid tissue and then other tissues of the lymphoreticular system. The exact issemination mechanism of the TSE associated prion is not completely understood. The aim of this study is to show sheep antigenic structure and scrapie antigen accumulation in the follicle of hemal nodes and if there is relation between cell types and srapie agent by Immunohistochemistry since there is no evidence whether hemal nodes play a role in the mechanism of scrapie disease in sheep. Hemal nodes are lymphoid organs, found only in the blood circulatory system but lack lymphatics, and are located in the abdominal and the thoracic cavities of ruminants. They are found along larger blood vessels since they take part in blood filtration and erythrophagocytosis. Nineteen infected ewes were defined as scrapie infected as tested by IHC with Ab 160/99 on rectal biopsies prior to euthanasia and 3 negative animals were used as controls. Retropharyngeal lymph nodes and hemal nodes which are in both the thoracic and abdominal cavity along each side of the spine were collected and stained with dual immunohistochemical analyses. The antibodies against to CD21 (BAQ25) for B cells, CD45R (BAQ36A) for Follicular Dendritic Cells (FDC's), CD163 (MCA1853) and CD172a (DH59B) for macrophages, CD3 (AO452) for T cells and Ventana 99 (V 99) and L42 for Scrapie prion were used. Germinal center of hemal nodes appears to contain macrophages, T cells, B cells, FDC's as the predominant cells types. Macrophages stained with MCA1853 and V99, MCA1853 and L42 were shown colocalized, whereas only for A0452, BAQ25, BAQ36A and V99/L42 were stained localized. Colocalization appears only in the germinal center. The staining pattern appears to be similar in hemal nodes and retropharyngeal lymph nodes. Hemal nodes in PrPSc positive animals do not consistently stain positive for PrPSc. (Stage of disease or genetics or breed or environmental stimuli). Immunohistochemical studies have pointed out that PrPSc antigen trapping in hemal nodes can be followed by a cellular and humoral immune response and PrPSc accumulation in hemal nodes may suggest the potential for hematogenous dissemination of PrPSc.

Keywords Scrapie, hemal node, macrophage, MCA1853

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Sığırlarda *Mycoplasma bovis* pnömonilerinde histopatolojik ve immunohistokimyasal bulgular*

R. YILMAZ¹, K. ÖNAT², İ.T. CANGÜL³, M.Ö. ÖZYİĞİT³, A. AKKOÇ³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Uludağ Üniversitesi, Veteriner Fakültesi, Mikrobiyoloji Anabilim Dalı, Bursa

³Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

Özet Bu çalışmada Bursa ili ve çevresindeki mezbahalarda kesilen sığırlarda *Mycoplasma bovis* pnömonilerinin prevalansının belirlenmesi, oluşan pnömoninin histopatolojik incelenmesi, etkenin bakteriyolojik ve immunohistokimyasal olarak ortaya konması ve etkene karşı gelişen yangısal yanıtın karakterize edilmesi amaçlandı. Çalışmada mezbahalarda kesilen toplam 1413 sığır akciğeri incelendi, 136'sında (% 9,63) pnömoni bulgusu gözlenerek örnek alındı. Yine Patoloji Anabilim Dalı arşivinden pnömoni bulgulu 10 vaka da çalışmaya dahil edildi. Mikrobiyolojik ekim ve immunohistokimyasal boyamalarda 39 vaka *M. bovis* pozitif boyandı, böylece bölgedeki pnömonili hayvanlarda *M. bovis*'in prevalansı % 26,71 olarak tespit edildi. *M. bovis* pozitif hayvanlarda en sık etkilenen akciğer lobunun sağ kranial lobun pars kranialisi olduğu saptandı. *M. bovis* 30 vakada tek etken iken, 8 vakada diğer bakteriyel etkenler de izole edildi. Bir vakada sadece immunohistokimyasal inceleme sonucunda teşhis edildi. En fazla gözlenen pnömoni tipinin fibrinopurulent bronkopnömoni (10 hayvan), non-purulent bronkointersitisyel pnömoni (6 hayvan) ve nekrotik-fibrinopurulent bronkopnömoni (6 hayvan) olduğu görüldü. Etken 24 hayvanda immunohistokimyasal boyamalar ile ortaya kondu, etkene en fazla bronş ve bronşiyol epitellerinde (20 hayvan) rastlandı. CD3, CD79, kappa hafif zincirleri ve lambda hafif zincirleri için yapılan immunohistokimyasal boyamalar sonucunda *M. bovis* pnömonilerinde en fazla bulunan yangı hücresinin T lenfosit olduğunu gösterildi.

Anahtar kelimeler *M. bovis*, pnömoni, immunohistokimya, sığır

*Bu çalışma Uludağ Üniversitesi Bilimsel Araştırma Projeleri Biriminin 2008/12 nolu projeye sağladığı destekle gerçekleştirilmiştir.

Histopathologic and immunohistochemical findings in bovine *Mycoplasma bovis* pneumoniae*

Abstract The aim of this study was to determine the prevalence of *M. bovis* pneumonia in slaughtered cattle in Bursa region, to perform the histopathological investigation of these cases, to demonstrate the agent with bacteriological and immunohistological examination and to characterize the inflammatory response against the agent. A total of 1413 lungs were examined at slaughterhouses and 136 lungs (9.63 %) with signs of pneumonia were sampled. Ten pneumonic lungs from the department archive were also included in the study. Bacteriological and immunohistochemical examination revealed *M. bovis* as the cause of pneumonia in 39 animals, thus the prevalence of *M.*

bovis in pneumonic lungs in Bursa region was determined as 26.71 %. The most commonly affected lung lobe was the cranial part of the right cranial lobe. *M. bovis* was the only microorganism in 30 animals, whereas in 8 animals other bacteria were also isolated. In one case, the diagnosis was made solely on the basis of the immunohistochemical examination results. The most common pneumonia type was fibrinopurulent bronchopneumonia (10 animals), non-purulent bronchointerstitial pneumonia (6 animals) and necrotic-fibrinopurulent bronchopneumonia (6 animals). The agent was demonstrated by immunohistochemistry in 24 animals, bronchi and bronchioli epithelia being the most commonly (20 animals) invaded histological structures. Immunohistochemistry using antibodies against CD3, CD79, kappa light chains and lambda light chains revealed T cell as the most prominent inflammatory cell in *M. bovis* pneumonia

Keywords *M. bovis*, pneumonia, immunohistochemistry, cattle

*This study was carried out by the financial support of Uludağ University Scientific Research Unit to the project 2008/12.

Dođal k¼¼¼k ruminant vebas (Peste des Petits Ruminants)'nn tansnda patolojik ve immunohistokimyasal incelemeler*

E.T. EPKMEN, N. TOPLU

Adnan Menderes niversitesi, Veteriner Fak¼¼tesi, Patoloji Anabilim Dal, Aydın

zet Sunulan alıřma, karakteristik ve nonkarakteristik olgularda dođal k¼¼¼k ruminant vebas (Peste des Petits Ruminants; PPR)'nn nekropsi, histopatolojik ve immunohistokimyasal bulgularn tanımlar. alıřma materyalini Aydın ve Aydın evre illerindeki 16 salgndan toplam 32 hayvan (14 kuzu, 10 ođlak, alt koyun, iki kei) oluřturdu. Nekropsiyi takiben alınan doku rnekleri % 10 tamponlu formalin solusyonunda tespit edildi, parafinde bloklandı, 5 µm kesitler alınarak hematoksilen ve eozin (H.E.) ile boyandı. Seri kesitler immunohistokimyasal boyamalar iin kullanıldı. Nekropside, ađız mukozasında eroziv-¼lseratif lezyona sahip olan hayvanlar karakteristik, olmayanlar ise nonkarakteristik olarak deđerlendirildi. Karakteristik lezyonlar bu alıřmada olgularn % 53'¼n¼ (yedi kuzu, beř ođlak, beř koyun) oluřtururken, % 47'si de nonkarakteristik olgulardan řekillenmiřti. Histopatolojik incelemede de, yine PPR iin patognomonik bulgulardan sinsityal h¼¼reler ve inkl¼zyon cisimcikleri hem karakteristik hem de nonkarakteristik olgularn sindirim kanalı organları ve akciđerlerinde d¼ř¼k oranlarda bulunmuřtur. Ađız mukozasında, sinsityal h¼¼reler % 53 ve inkl¼zyon cisimcikleri % 35 oranlarında kaydedilirken; nonkarakteristik olgularda da sinsityal h¼¼reler % 29 ve inkl¼zyon cisimcikleri % 20 oranlarında belirlenmiřtir. Avidin-biotin peroksidaz kompleks metot ile gerekleřtirilen immunohistokimyasal incelemede ise immunoreaksiyonlar; lenfoid organlarda makrofajlar, retik¼ler h¼¼reler ve daha az olarak da lenfositlerde; solunum sisteminde yanđsal monon¼klear h¼¼reler ile trake, bronř ve bronřiyol epitellerinde; sindirim sisteminde yanđsal h¼¼relerde ve ađız mukozası epitelleri ile daha az olarak da villus ve kript epitellerinde saptanmıřtır. Sonu olarak; Aydın ve Aydın evre illerindeki salgnlarda, her olgu PPR'in nekropsi ve histopatolojik bulgularn tam olarak yanstmamaktadır ve hastalıđın patogenezisinde farklılıklar olduđu g¼r¼lmektedir. PPR'in kesin tansnda histopatolojik bulgularn mutlaka immunohistokimyasal y¼ntemlerle desteklenmesi nerilmektedir.

Anahtar kelimeler Histopatoloji, immunohistokimya, kei, koyun, k¼¼¼k ruminant vebas (Peste des Petits Ruminants; PPR)

*Bu alıřma Y¼ksek Lisans tezinden zetlenmiř ve Adnan Menderes niversitesi Bilimsel Arařtırma Projeleri Birimi tarafından desteklenmiřtir (Proje no: SAE-08002).

Pathological and immunohistochemical investigation in diagnosis of natural Peste des Petits Ruminants*

Abstract This study describes the necropsy, histopathologic and immunohistochemical findings of the characteristic and non-characteristic PPR cases. For this purpose, thirty

two animals from eighteen natural outbreaks of PPR in Aydın and around Aydın province were examined. Following the detailed necropsy, tissue samples were fixed in 10% neutral buffered formalin, embedded in paraffin wax, sectioned at 5 mm, and stained by routine methods with haematoxylin and eosin (H.E.). Serial sections were used for immunoperoxidase labelling. At necropsy, the animals with erosive and ulcerative lesions were considered to have characteristic, whereas the animals with no oral lesions were evaluated as noncharacteristic. Characteristic findings were detected in 53 % of the animals, and noncharacteristic lesions were observed in 47 % of the animals. Histopathologically, the pathognomonic findings of the PPR (syncytial cells and intracytoplasmic inclusion bodies) in the digestive tract and lung were found in low rates. In the oral mucosae, syncytial cells rates and intracytoplasmic inclusion bodies were found 53 % and 35 % in characteristic cases, respectively. In the noncharacteristic cases, rates of syncytial cells and intracytoplasmic inclusion bodies were found 29 % and 20 % respectively. Immunohistochemically, viral antigen labeling was determined in the macrophages, reticulum cells and, to a lesser extent, lymphocytes in the lymphoid tissues. Strong immunolabelling of viral antigen were found infiltrated macrophages and epithelium of the trachea, bronchi and bronchioles. In the digestive tract, positive reactions were particularly observed in the infiltrated mononuclear cells and epithelial cells of the oral mucosae, to a lesser extent, in the epithelial cells of the villus and crypts. In conclusion, the necropsy and histopathological findings of the each cases were not specific for the diagnosis of the PPR and, thus immunohistochemistry in such cases clarified the definitive diagnosis in the outbreaks of the PPR in Aydın and around Aydın province.

Keywords Histopathology, immunohistochemistry, goat, sheep, small ruminant plague (Peste des Petits Ruminants; PPR)

*This study was summarised from the MSc thesis and was supported by Adnan Menderes University Scientific Research Projects Unit (Project no: SAE-08002).

Pathogenicity and maintenance of *Salmonella* serovars in broiler chickens as detected by PCR test

M YOUNUS¹, Z.I. CHAUDHARY¹, M.A. KHAN¹, M. BOULJIHAD³, A.R. SHAKOORI², N. MEHMOOD², M. RAMZAN¹

¹University of Veterinary and Animal Sciences, Lahore, Pakistan

²University of the Punjab, New Campus, Lahore, Pakistan

³College of Veterinary Medicine, University of Minnesota, USA

Abstract The purpose of the present study was to determine of two newly emerging serovars of *Salmonella* i.e., *S. enteritidis* and *S. typhimurium* through PCR test in broiler chickens. A day old broiler chicks were procured and divided into three groups, while each group contains 100 chicks. Group A and B were inoculated orally with *Salmonella enteritidis* @ $10^{3.58}$ /ml and *S. typhimurium* @ 10^3 /ml per bird, respectively on 7th day of age. Group C was non infected control. In group A 86.74% of the birds were maintaining the *Salmonella enteritidis* in the large intestine with a mortality rate of 18% during the entire experimental period. None of the samples of small and large intestine of control group (Group-C) and small intestine in groups A and B were found positive for either *Salmonella enteritidis* or *Salmonella typhimurium* both. It was concluded that *Salmonella typhimurium* was more pathogenic than *S. enteritidis*. The maintenance of both the *Salmonellae* is quite favourable for a carrier state leading to the spread of Salmonellosis in the birds and food poisoning in humans.

Keywords Broiler chickens, carrier state, pathogenicity, *Salmonella enteritidis*, *Salmonella typhimurium*

Pathological and genotoxic effects of atrazine in Japanese quail (*Coturnix japonica*)

R. HUSSAIN¹, **F. MAHMOOD**¹, M.Z. KHAN¹, A. KHAN¹, F. MUHAMMAD²

¹Department of Pathology, University of Agriculture, Faisalabad-38040, Pakistan

²Department of Physiology & Pharmacology, University of Agriculture, Faisalabad-38040, Pakistan

Abstract Atrazine (ATZ) is an herbicide of the chloro-s-triazine family. It is frequently sprayed at pre harvest stages of various food crops including maize, cotton and wheat to control weeds. Apart from domestic and wild mammals, birds living in the parallel ecological system and searching feed in the field treated with ATZ are also exposed to this compound. Scanty information is available about ATZ genotoxic effect in avian tissues/cells. This paper describes the experimentally induced pathological and genotoxic effects of ATZ in multiple tissues in male Japanese quail (*Coturnix japonica*). A total of 96 adult male Japanese quail were administered ATZ at 0 to 500 mg/kg bw (A-H groups) orally daily for 45 days. Birds were monitored twice daily for clinical signs and attraction towards feed. Feed intake of all groups was measured and calculated on per bird per day while body weight of individual bird in each group was recorded on weekly basis. The blood and morbid tissues were collected at day 15, 30 and 45. Isolated lymphocytes and hepatocytes were subjected to Comet Assay to evaluate DNA damage in these cells due to ATZ. The data obtained were subjected to statistical analysis. A significant decrease in feed intake, body weight, erythrocyte counts, hemoglobin and hematocrit values were observed at high ATZ dose. Leukocyte counts decreased significantly throughout the experiment in groups E-H (50-500 mg/kg bw). Grossly, testes from ATZ treated birds were comparatively smaller in size. Histologically, seminiferous tubules of testes in group H (500 mg/kg bw) exhibited decreased number of spermatocytes, necrotic nuclei of round spermatids, and lesser population or absence of spermatozoa. Biliary hyperplasia and vacuolar degeneration in liver and mild renal tubular necrosis was observed in high dose. Significantly longer comet tails of DNA damage in leukocytes and isolated hepatocytes were recorded with 500 mg/kg bw ATZ. In the present study, no mortality occurred, however, decreased feed intake and body weight gain following ATZ feeding at (250 and 500 mg/kg bw) was observed. Decrease in the body weight with ATZ toxicity could be partially attributed to energy restriction due to reduced feed intake, perhaps also due to feed aversion. In present study, hepatocytes and lymphocytes showed DNA damage with significantly increased tail length of comets in quail administered ATZ 500 mg/kg bw for 45 days. Our data substantiate with previous studies about genotoxicity/DNA damage caused by ATZ administration with higher tail length of the comets in isolated human and mouse lymphocytes. It is concluded that continuous exposure of ATZ contaminated grains in feeds leads not only pathological alterations but also have genotoxic effects in avian species.

Keywords Atrazine, Japanese quail, testis, pathology, DNA damage

Studies on the comparative efficacy of acetic acid and amprolium on the occurrence of coccidiosis and growth performance of broiler chickens

R.Z. ABBAS¹, S.H. MUNAWAR¹, I. ZAFAR¹, M.K. SALEEMI², M.A. ZAFAR³, A. YOUSAF³

¹*Department of Parasitology, University of Agriculture, Faisalabad-38040, Pakistan*

²*Department of Pathology, University of Agriculture, Faisalabad-38040, Pakistan*

³*Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad-38040, Pakistan*

Abstract The present study was planned to evaluate the effect of acetic acid on the occurrence of coccidiosis and growth performance in broiler chickens. For this purpose, a total of 198, day-old broiler chicks were divided into six groups, each having 33 chicks. From the 10th day, three different concentrations, 0.1%, 0.2% and 0.3% of acetic acid were given in drinking water, to the birds of groups 1, 2, and 3 respectively till 18th day of age. At the age of 12 days, the oral inoculation of *Eimeria tenella* sporulated oocysts (at the dose rate of 75,000/chick) was given to the chicks of all the groups except group 6 which served as un-infected un-medicated control, while the group 4 was kept as infected un-medicated. The group 5 was treated with amprolium (125 ppm). The effect of acetic acid was evaluated both on pathological and performance parameters shown by the birds. Faecal scoring, oocyst per gram of faeces, lesion scoring, oocyst scoring and percent survival rates were included in the pathological parameters whereas feed consumption, feed conversion ratio and weight gain were the growth performance parameters. Among three concentrations of acetic acid, 0.3% acetic acid showed significant good results comparable with amprolium both in terms of enhancing the growth and reducing the pathological effects of *Eimeria tenella*. Concentration-dependent effect of acetic acid suggest that further studies should be carried out to determine the possible maximum safe levels of acetic acid with least toxic effects to be used as anticoccidial.

Keywords Acetic acid, growth performance, anticoccidial activity, *Eimeria tenella*, avian coccidiosis

Cutaneous manifestations of canine leishmaniasis: A clinical and histopathological study of 36 spontaneous cases from an endemic focus in Iran

J. KHOSHNEGAH¹, A.R. MOVASSAGHI²

¹*Department of Clinical Sciences, School of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

²*Department of Pathobiology, School of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

Abstract The objective of this study was to provide up-to-date information on the clinical and histopathological features of 36 cases of canine leishmaniasis with cutaneous lesions encountered in a leishmaniasis-endemic area. From October 2007 through March 2010, 1299 dogs were examined specifically for skin disorders at the Ferdowsi University of Mashhad Small Animal Clinic. Dermatological disorders accounted for 17% (221 dogs with 316 dermatological diagnoses) of all the dogs examined. Cutaneous manifestations of canine leishmaniasis encountered in 36 of 316 (11.39%) dermatological diagnoses. Ulcerative dermatitis and papulonodular dermatitis were the most common skin lesions; the ulcers were mainly localized on the nasal planum and around the lips. Skin papules and nodules without ulceration were also observed at various sites including the skin of the abdomen, the bridge of the nose, the inner surface of pinnae, the inner aspect of anterior and posterior extremities, the prepuce, the eyelids and the lower lips. On histopathologic examination, the skin biopsy specimens showed a nodular to diffuse dermatitis, chronic granulomatous inflammation, granulomatous perifolliculitis, sebaceous adenitis, superficial and deep perivascular dermatitis, and interstitial dermatitis. It is of great importance that various cutaneous manifestations of leishmaniasis to be considered in the differential diagnosis of canine skin disease especially in leishmaniasis-endemic areas.

Keywords Survey, dermatological disorders, leishmaniasis, dog, Iran

Toxico-pathological effects of cypermethrin on testes, sperm counts and testosterone concentration in rabbits

A. KHAN¹, L. AHMAD¹, M. Z. KHAN¹, M.K. SALEEMI¹, F. MAHMOOD¹, M. IMRAN²

¹*Department of Pathology, Faculty of Veterinary Science, University of Agriculture, Faisalabad, Pakistan*

²*Pakistan Institute of Nuclear Medicine, Faisalabad, Pakistan*

Abstract Pakistan is dominantly an agricultural country, where numerous pesticides are in use for the control of agricultural pests and disease causing vectors in animals. Cypermethrin (CY), a synthetic pyrethroid is one of the pesticides frequently used for such purposes as it has a wide margin of safety in mammals. In spite of a wide margin of safety, CY is not free from adverse effects; therefore, toxicity in farm animals do occur. In addition to lack of current toxicity database, published evidence on male reproductive toxicity is also scarce except in goats. Therefore, the present study was planned and executed to evaluate the sub-acute reproductive toxicity of CY in male rabbits. Toxico-pathological effects upon reproductive parameters in mature male rabbits induced by CY were investigated in the present study. Apparently healthy adult age- and weight-matched experimental animals (n=40) were procured from the local market and kept under similar management conditions. Different doses of CY (0, 50, 100 and 150 mg.kg⁻¹ bw) were injected intraperitoneally at weekly intervals in male rabbits prior to mating. Treatment was continued for whole spermatogenesis period (about 67 days). The data obtained were subjected to statistical analysis. A significant (P≤0.05) decreased in testicular and epididymal sperm counts were recorded mostly in dose and time dependent manners in CY-treated rabbits. Degeneration, arrested spermatogenesis and connective tissue proliferation in testes, while tailless spermatozoa and fibrosis in epididymus were observed in CY-treated rabbits. The toxic effects of CY on fertility were found to be alarming. When untreated female rabbits (n = 6 x 4 = 24) were mated with CY-treated male rabbits (n = 2 x 4 = 8), resorption and early mortality rate were found to be significantly (P≤0.05) increased as compared to control group. In the present study a significant decrease in epididymal and testicular sperm counts in CY-treated groups might have resulted due to pathological conditions developed in CY-treated rabbits in the present study. Hydrophobic nature and small particle size enable CY to cross the cell membrane and reach the nucleus. In nucleus CY could bind to DNA through the reactive groups of its acid moiety in the nucleus. This binding could destabilize and unwind the DNA helix, leading to genotoxicity. Similar untoward effects after CY treatment have also been in rats, human and mice. It was inferred that CY-induced defects in sperms and/or pathological alterations in testes and epididymis could have decreased pregnancy rate in untreated female rabbits.

Keywords Cypermethrin, male rabbits, testis pathology, sperm count, testosterone

Histopathological and hematological analysis of broiler chickens experimentally infected with pathogenic *Escherichia coli*

Q. NISA¹, M. YOUNUS¹, M. RABBANI²

¹Department of Pathology, University of Veterinary and Animal Sciences, Lahore, Pakistan

²University Diagnostic Laboratory, University of Veterinary and Animal Sciences, Lahore, Pakistan

Abstract *Escherichia coli* infection in avian species has become an economic threat to the poultry industry worldwide. Current study was conducted to observe the ante-mortem, mortality rate; postmortem findings along with histopathological and hematological changes of broiler chickens which were experimentally infected with *E.coli*. A total of 140 day old broiler chicks were randomly divided into four groups i.e. A, B, C and D and were inoculated with the live culture of *E.coli* grown in liquid media. Group A was inoculated through oral route, group B through sub cutaneous route, group C through Intramuscular route whereas group D was kept as none infected/control. At the age of 3 weeks (7 days of post infection), the birds of experimental and control groups were slaughtered to study the hematological parameters along with gross and histopathological lesions in Liver, lung, spleen and kidneys. The postmortem changes observed in all the infected groups A, B and C at the age of 21 days (7 days post infection) were liver surface covered with thick fibrinous layer. severe congestion of the lungs was seen. Severe inflammatory reaction and congestion of the liver, lungs, spleen, and kidneys were also noted. There was a significant decrease in hemoglobin concentration, packed cell volume, total erythrocyte count amongst all the infected groups A, B and C at 21 days of age (7 days post infection) as compared to control group D. But the erythrocyte sedimentation rate and total leukocyte count showed a significant increase in all the infected groups, i.e. A, B and C as compared to control group D at the 21 days of age. The main histopathological lesions observed in all the infected groups A, B and C at the age of 21 days (7 days of post infection) in liver, lungs, spleen and kidneys showed necrosis, hemorrhage and leukocyte infiltration. However, in few cases fatty dystrophy, congestion and degenerative changes were also observed. No histopathological lesion could be observed in control group D. From present study it was concluded that colibacillosis caused by experimental *E.coli* infection resulted in severe clinical signs, mortality and pathological and hematological changes especially through intramuscular route as compared to other routes of infection.

Keywords Colibacillosis, avian species, intramuscular, postmortem changes, broiler chickens

Tavşanlarda biberiye (*Rosemarinus officinalis*) ekstraktının yara iyileşmesi üzerine etkileri

R. YILMAZ¹, F. TEMAMOĞULLARI², Z. ÖZYILDIZ¹, A. HAYAT³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Harran Üniversitesi, Veteriner Fakültesi, Farmakoloji ve Toksikoloji Anabilim Dalı, Şanlıurfa

³Harran Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Şanlıurfa

Özet Bu çalışmada tavşanlarda %5'lik biberiye ekstraktının yara iyileşmesi üzerine etkileri histopatolojik ve istatistiksel olarak incelendi. Çalışmada 6 erkek, 6 dişi Yeni Zellanda tavşanının sırt bölgesinde, her hayvanda 3 cm çapında, tam katlı toplam 36 yara oluşturuldu. Yaralardan birine %5'lik biberiye ekstraktı, diğerine %10'luk povidone-iyot solüsyonu, sonuncusuna ise kontrol amaçlı %0,9'luk serum fizyolojik içeren gazlı bez tamponu günlük olarak uygulandı. Çalışmanın 4, 7, 10 ve 14. günlerinde yara çapları kumpasla ölçülerek saat yönünde biyopsi örnekleri alındı. Alınan dokular %10'luk tamponlu formaldehitte tespit edilip, rutin doku takibinden sonra parafin bloklara gömüldü ve 5µ kalınlığında kesitler alınarak Hematoksilen&Eozin (H&E) ile boyandı. Kesitler nötrofil, makrofaj infiltrasyonları, fibrosit, fibroblast proliferasyonu, kollagen birikimi, epitelizasyon ve damarlaşma yönünden değerlendirildi. Verilerin istatistiksel analizleri SPSS programında yapıldı. Sonuç olarak; biberiye uygulamasının iyot ve serum fizyolojiğe göre yara iyileşmesi üzerinde daha etkili olduğu belirlendi.

Anahtar kelimeler Tavşan, yara iyileşmesi, biberiye, histopatoloji

The effect of rosemary (*Rosemarinus officinalis*) extract on wound healing in rabbits

Abstract In the present study, the effects of 5 %rosemary (*Rosemarinus officinalis*) extract on wound healing was investigated by histopathology and statistically. A total of 36 full thickness skin wounds were created on their dorsal aspect 3x3 cm diameter in 3 different areas from each of 6 male, 6 female New Zealand rabbits. One of the three wounds were applied on 5% rosemary extract, the other ones 10% povidone-iodine solution, to last for the control 0.9% saline buffer containing gauze on a daily basis. Skin biopsies were taken in clockwise direction from all animals on days 4, 7, 10, 14 and wound diameters were measured with calipers as daily. The tissue samples were fixed in 10% neutral buffered formalin and were processed with routine histologic procedures, cut about 5 µm thick, and stained with Hematoxylin&Eosin (H&E). Histopathologic examination revealed that neutrophil and macrophage infiltrations, fibrositis and fibroblast proliferations, collagen deposition, epithelization and vascularization. The statistical comparison was made with SPSS. As a result; this study suggest that rosemary applications more effective than iodine and saline solutions on wound healing.

Keywords Rabbit, wound healing, rosemary, histopathology

***Vibrio anguillarum* ile enfekte edilen gökkuşığı alabalıklarında
(*Oncorhynchus mykiss* Walbaum, 1792) morfolojik ve immunohistokimyasal
incelemeler***

H. AVCI, S.S. BİRİNCİOĞLU

Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın

Özet Bu çalışmada, *Vibrio anguillarum* O1 (ATTC 43305) suşu intraperitoneal yol ve immersiyon metoduyla gökkuşığı alabalıklarına verilerek deneysel vibriozis oluşturuldu. Bu amaçla, 56 adet gökkuşığı alabalığı (80 ± 10 g ağırlığında ve 10-12 cm büyüklüğünde) iki deneme grubu (Deneme İntraperitoneal Grup (DİP), n; 20 – Deneme İmmersiyon Grup (DİM), n: 20) ve iki kontrol grubu (İntraperitoneal Kontrol (KİP), n; 8 - İmmersiyon Kontrol (KİM), n; 8) olmak üzere dört gruba ayrıldı. DİP'e intraperitoneal olarak 5,5 x 10⁸ cfu/ml bakteri olacak şekilde 0,1 ml bakteri inokülatı verildi. İmmersiyon uygulamada, 30 litre suya 5,5 x 10⁸ cfu/ml bakteri içeren inokülattan 50 ml katılarak hazırlanan solüsyonda balıklar 30 dakika bekletildi. İlk ölümler DİP'te inokülasyonun üçüncü gününde, DİM'de ise beşinci gününde başladı. Ölen ya da ötanazi edilen balıkların nekropsilerini takiben, tüm dokular % 10'luk tamponlu formalinde tespit edildi. Elde edilen parafin kesitlerinin tamamı hematoksilen-eozin ve indirekt immunoperoksidad tekniği ile boyanarak ışık mikroskopunda incelendi. Lezyonların dağılımında gruplar arasında farklılıklar görüldü. DİP'te düzensiz yüzmeler, yüzgeçlerde ve anüs etrafında hiperemi, kas, karaciğer ve solungaçta kanama ile dalakta büyüme görüldü. Mikroskopik incelemede, iskelet kası, karaciğer ve dalakta kanama ve yangısal reaksiyonların görülmediği nekrozlar, solungaçlarda, ödem, telangiektazi, epitel hücrelerde nekroz ve eozinofilik granüler hücrelerde (EGH) artışlar, kalpte endotelial makrofajlarda aktivasyon ve epikarditis, böbrekte tubulus epitellerinde eozinofilik hiyalin damlaları ve midede EGH'larda artış gözlemlendi. İmmunohistokimyasal incelemede bakteriyel antijene, kas, karaciğer, dalak, solungaç ve hava kesesinde saptandı. DİM'de makroskopik olarak, solungaçlarda solgunluk ve kanama, karaciğerde renk değişikliği ve hava kesesinde matlaşma belirlendi. Mikroskopik incelemede, solungaçlarda, ödem, epitellerde dökülme, telangiektazi ve EGH'larda artış, karaciğerde kanama, nekroz ve yağlanma, hava kesesi serozasında ödem ve kanamalar gözlemlendi. İmmunohistokimyasal incelemede, bakteriyel antijen yoğun olarak solungaçlarda görüldü. Kalp, karaciğer, dalak, pilorik kese ve bağırsaklarda ise az sayıda balıkta pozitif reaksiyonlar saptandı. Sonuç olarak, deneysel vibriozis'de görülen patolojik bulgular karşılaştırmalı olarak incelendi ve immunohistokimyasal yöntemle de etkenin doku ve organlardaki dağılımı değerlendirildi.

Anahtar kelimeler *Vibrio anguillarum*, patolojik bulgular, immunohistokimya, gökkuşığı alabalığı

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Morphologic and immunohistochemical investigations in rainbow trout (*Oncorhynchus mykiss* Walbaum, 1792) experimentally infected with *Vibrio anguillarum**

Abstract In this study, experimental vibriosis caused by *Vibrio anguillarum* O1 (ATCC 43305) was constituted in rainbow trout using intraperitoneal route and immersion method. For this purpose, 56 rainbow trout (weight 80 ± 10 g and 10-12 cm in size) were divided into four groups [two experimental (Intraperitoneal Group (IPG), n: 20 - Immersion Group (IMG), n: 20) and two control (Intraperitoneal Control Group (IPCG), n: 8-Immersion Control Group (IMCG), n: 8)]. *V. anguillarum* at a concentration of 5.5×10^8 cfu/ml (0,1 ml per fish) was injected intraperitoneally to the IPG. The IMG were immersed into 30 l water inoculated with 50 ml of bacterial inoculum (5.5×10^5 cfu/ml) for thirty minutes. The first death was observed on the 3th day of application in the IP, and on the 5th day of the IM group. The death and euthanased fish were necropsied, all tissue samples collected, fixed in 10 % neutral-buffer formalin solution, embedded in paraffin wax, sectioned at 5 μ m and stained with hematoxylin and eosin (H&E) and indirect immunoperoxidase technique. The lesions were different in location depending on the inoculation routes. Irregular swimming, hyperemia in the fins and around the anus, hemorrhage in the muscle, liver and gill and enlargement in the spleen were observed macroscopically in the IP group. In microscopic examination, the skeletal muscle, liver and spleen showed hemorrhage and necrosis with no inflammatory response. In the gills, there were edema, telangiectasi, necrosis of epithelium and an increase in the number of eosinophilic granular cells (EGCs). Activation of the ventricular endothelial macrophages and epicarditis in the heart, eosinophilic hyalin droplets in the tubular epithelium of the kidney and an increase in the number of EGCs in the stomach were determined. With immunoperoxidase staining, bacterial antigen was seen in the muscle, liver, spleen, gills and swim bladder. Macroscopically, in the IMG, paleness and haemorrhages in the gills and discoloration in the liver were determined. Swim-bladder had a opaque appearance. At the microscopic examination, there were edema, desquamation of the epithelial cells, telangiectasi and an increase in the number of the EGCs. Hemorrhage, fatty changes and necrosis were observed in the liver. Edema and hemorrhages were generally found in serosa of the swim bladder. Immunohistochemically, positive reactions were particularly observed in the gills and to a lesser extent in the heart, liver, spleen, pyloric caecae and intestines. In conclusion, pathological findings seen in the experimental vibriosis were comparatively examined and distribution of the bacterial antigen in tissues were also evaluated immunohistochemically.

Keywords *Vibrio anguillarum*, pathological findings, immunohistochemistry, rainbow trout

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İki abort tayda saptanan equine herpes virüs-1 enfeksiyonu

A. GÜREL¹, **F. YILDIZ**¹, G. ŞENNAZLI¹, N. TURAN², H. YILMAZ²

¹*İstanbul Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, İstanbul*

²*İstanbul Üniversitesi, Veteriner Fakültesi, Viroloji Anabilim Dalı, İstanbul*

Özet Equine Herpes Virüs I (EHV-I) kısıraklarda gebeliğin son 1/3'lük döneminde abortlara ve yeni doğan taylarda ölümlere yol açan, genellikle atlarda üst solunum yolu enfeksiyonlarına ve nadiren de nörolojik bozukluklara neden olan patojen bir virüsdür. EHV-I'in oluşturduğu enfeksiyonlar atların gruplar halinde yetiştirildiği yerlerde gebelik, yarış ve taşıma gibi stres durumları göz önüne alındığında ciddi bir risktir. Bu çalışmada 2008 yılı Şubat ayında Anabilim Dalımıza nekropsi için getirilen, iki adet abort tayda saptanan EHV-I enfeksiyonunun makroskopik, mikroskopik ve real time-polimeraz zincir reaksiyonu (RT-PZR) bulgularının sunulması amaçlanmıştır. Kırklareli Lüleburgaz bölgesinde yarış atı yetiştiriciliği yapılan özel bir işletmede iki hafta ara ile her ikisi de gebeliğin 9. ayında atılan 2 abort tay Anabilim Dalımıza getirildi. Sistemik nekropsileri yapılan taylardan histopatolojik ve virolojik incelemeler için doku örnekleri alındı. Histopatolojik inceleme için alınan örnekler % 10'luk formaldehit çözeltisi ile tespit edildi, rutin işlemlerden geçirildi, hematoksilin-eozin ile boyandı ve ışık mikrokopta incelendi. Virolojik inceleme için alınan doku örneklerinden QIAamp Mini Kit ile DNA ayrıştırıldı ve RT-PZR (SYBR Green) ile spesifik primerler kullanılarak EHV-I ve EHV-IV yönünden analiz edildi. Makroskopik ve mikroskopik olarak her iki tayda da ortak bulgular saptandı. Plasentada yaygın kanama, ağız mukozasında hiperemi peteşiyel kanamalar, göğüs boşluğunda kanlı efüzyon, akciğer, karaciğer, dalak ve böbrekte yoğun konjesyone görünüm, karaciğerde submilyer nekroz odakları ve dalakta yaygın peteşiyel kanamalar izlendi. Mikroskopik bakıda genel olarak organlarda ödem hiperemi ve kanama bulgularının izlenirken, karaciğerde fokal koagülasyon nekrozları, nekroz odakları çevresinde iri ve eozinofilik yapıda intranükleer ve intrasitoplazmik inklüzyon cisimcikleri ve dalakta beyaz pulpada şiddetli koagülasyon nekrozu belirlendi. RT-PZR ile yapılan analizlerde doku örneklerinde EHV-I pozitif saptanırken EHV-IV yönünden negatif olarak tespit edildi.

Anahtar kelimeler Tay, abortus, equine herpes virüs, RT-PZR

Equine herpes virus-1 infection detected in two aborted foals

Abstract Equine Herpes Virus I (EHV-I) is a viral pathogen that causes abortions in the last 1/3 part of gestation in mares and neonatal foal deaths. Also, it generally produces upper respiratory tract infections and rarely neurologic disorders in adult horses. The infections caused by EHV-I is a serious risk in places where horses are bred in groups and when they are considered in some stress conditions like gestation, transportation and racing. In this study we aimed to present the gross, microscopic and real time polymerase chain reaction (RT-PCR) findings of EHV-I infections which were detected in two aborted foals that they were submitted for necropsy in February 2008.

A private race horse breeding farm in Luleburgaz applied to our department for necropsies of two aborted foals in their 9th month gestation with two weeks interval. Systemic necropsy was applied then tissue samples were collected for histopathologic and virologic analyses. Tissue samples for histopathology were fixed by 10 % formalin, routinely processed, stained by hematoxylin&eosin and assessed under light microscope. For virologic analyses DNA was extracted by QIAamp Mini Kit and RT-PCR (SBYR Green) was performed using specific primers of EHV-I and EHV-IV. Grossly and microscopically, common findings were detected in both of the foals. Extensive haemorrhage in placenta, hyperaemia and broad petechial haemorrhage in oral mucosa and surface of spleen, bloody effusion in thorax, excessive congestion in the lung, liver, spleen and kidney and submilier focal necrosis in the liver were detected. Microscopically oedema, hyperaemia and haemorrhage were determined in all tissues and organs. Furthermore, focal coagulation necrosis and marked eosinophilic intranuclear and intracytoplasmic inclusion bodies in the hepatocytes localised around the necrotic areas in the liver and severe coagulation necrosis in white pulp in the spleen were observed. In RT-PCR analyses EHV-I was positive and EHV-IV was negative.

Keywords Foal, abortion, equine herpes virus, RT-PCR

İki günlük bir buzağıda damak yarıklığı ile birlikte gözlenen servikal ektopia kordis olgusu

A. SEVİMLİ¹, İ. DEMİRKAN², **A. ULUCAN**³, M. KORKMAZ², C.Ç. CINGİ⁴

¹Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar

²Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Afyonkarahisar

³Afyon Kocatepe Üniversitesi, Başmakçı Meslek Yüksekokulu, Afyonkarahisar

⁴Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Afyonkarahisar

Özet Bu çalışmada iki günlük bir buzağıda damak yarıklığı ile birlikte gözlenen servikal ektopia kordis olgusu ele alınmıştır. Afyon Kocatepe Üniversitesi Veteriner Fakültesi Hayvan Hastanesine boynun sağ tarafında göğüs boşluğu girişinin ön kısmında atan bir kitle, şiddetli solunum güçlüğü, göz titremesi şikayeti ile getirilen 2 günlük Holstein x Simental melezi erkek bir buzağı incelendi. Buzağı hastaneye geldiğinde komada idi. Hemen oksijene bağlanan hayvanın biyokimyasal parametrelerinin analizi için kan numuneleri alındı. Yapılan CRP(cardio-pulmoner resuscitation-hayata döndürme) müdahalesine rağmen ölen hayvanın, hayvan sahibinin izniyle postmortem incelemelerinin yapılmasına karar verildi. Postmortal incelemede ağız boşluğunda üst damakta yarığa rastlandı (palatoschisis). Cervical bölgenin sağ alt 1/3lük kısmında deri altında kalbe rastlandı. Apertura thoracica cranialis'te kalbin damarlarının geçtiği fissur oluşumu dikkati çekti. Kalbin ağırlığı 660 gr. idi. Kalbin basisi thorax'a, apex'i başa doğru yerleşmişti. Kalp'te hidroperekardiyum ile birlikte sağ ventrikülün genişleyerek sol ventrikülden daha da büyük olduğu görüldü. Göğüs boşluğunda yaklaşık 400ml. kanlı sıvıya rastlandı. Akciğerlerin kısmen kollabe olduğu görüldü. Karaciğerin yüzeyinden dışarı doğru hafif şekilde çıkıntı yapmış orta sertlikte nodüler tarzdeki yapılarla rastlandı. Doku örnekleri rutin yöntemler ile işlendi ve Hematoksilin- eosin ile boyandı Histopatolojik incelemede kalp'te yağ dokuda kalınlaşma ile birlikte hafif şiddette mononükleer hücre infiltrasyonlarına rastlandı. Myokardiyum ve endokardiyumdaki kasların hipertrofiye uğradığı görüldü. Karaciğerde asinuslarda yaygın nekroz sahalarına rastlandı. Serumda biyokimyasal parametrelerin 48. saatteki bulgularının değerlendirilmesinde özellikle total protein ve albumin değerlerinin düşük olduğu, karaciğer enzimlerinden Alkaline phosphatase (ALP), Aspartat aminotransferaz (AST), Alanin aminotransferaz (ALT) düzeylerinin ise yükselmiş olduğu tespit edildi.

Anahtar kelimeler Buzağı, ektopia kordis, damak yarıklığı

A case of ectopia cordis with palatal cleft in a two-day-old calf

Abstract This study describes clinical, macroscopic, microscopic findings and serum parameters in a two-day-old calf suffering from ectopia cordis combined with palatal cleft. A two-day-old male Holstein x Simental cross-bred was referred to the Animal Hospital of Faculty of Veterinary Medicine Afyon Kocatepe University due to heavy

breathing, nystagmus, a beating mass on the right side of the neck closer to the cranial thoracic inlet. The calf was in coma on arrival to the hospital. Immediately the oxygen was provided, blood sample was taken for analysis of biochemical parameters. The animal died despite the CPR. On the owner's consent it was decided to perform postmortem examination. In postmortem examination, a palatal cleft (palatogenesis) in the oral cavity was observed. The heart was seen at the 1/3 of the distal region on the right cervical site. There was a fissure (groove) formation that heart vessels could run at the apertura thoracica cranialis. The weight of the heart was 660 g. The base of the heart was pointing to the thorax while the apex located cranially. With the presence of hydropericardium the right ventriculus due to enlargement was bigger than the left ventriculus. From the thoracic cavity a total of 400 ml fluid with blood contamination was collected. The lungs were partially collapsed. On the surface of the liver a number of protruding nodules in medium solidity were noted. Tissue samples were processed in a routine manner and stained with haematoxylin and eosin. A thickening of fatty tissues with an average level of infiltration of mononuclear cells was evident in the heart. Muscles of myocardium and endocardium were highly hypertrophic. Diffuse necrotic fields in the liver were also noted. Evaluation of serum biochemistry at the 48th hour showed that especially total protein and albumin values were low however the level of liver enzymes such as alkaline phosphatase (ALP), aspartate aminotransferase (AST), alanine aminotransferase (ALT) were increased.

Keywords Calf, ectopia cordis, palatal cleft

Kalsinozis sirkumskripta olgusunda sitopatolojik ve klinikopatolojik bulgular

N. YUMUŞAK¹, M. ÇALIŞKAN², G. YÜCEL³, O. KUTSAL⁴

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Ankara Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Ankara

³Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

⁴Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Kalsinozis sirkumskripta ender olarak görülen yumuşak dokularda kalsiyum tuzlarının çökmesiyle karakterize tümör benzeri lezyonlardır. Genellikle atlarda ve 2 yaşın altındaki genç ve büyük ırk köpeklerin ayak tabanında solid kitleler şeklinde görülürler. Çalışmada bir köpeğin sol arka ekstremitesinde kalsinozis sirkumskripta sitolojik ve klinikopatolojik olarak tanımlandı. Çalışmanın materyalini, sol arka ekstreminenin metatarsusunda sert kitle şikayeti bulunan 1 yaşlı, dişi, kırma bir köpekten alınan biyopsi oluşturdu. Genel muayenesinde sol arka ekstremitenin dorso-ventralinde yaklaşık 3 cm çapında sert bir kitle tespit edildi. Biyopsi örneğinden tuşe yöntemiyle sitolojik preparatlar hazırlanarak May-Grunwald Giemsa boyaması yapıldı. Doku örnekleri rutin doku takibine alınarak Hematoksilen eosin (HE) ve Alzerin Red S boyamaları yapılarak ışık mikroskopunda incelendi. Radyografik görüntüleme 3. phalanx ve metatarsus ekleminin lateralinde, kemiğe invaze olmayan radyopak kitle tespit edildi. Biyopsi materyali makroskobik olarak, 3x2x2 cm boyutlarında, 5 gr ağırlığında, sert kıvamlı ve üzeri deriyle kaplıydı. Kesit yüzünde ise çok sayıda, lobuler tarzda, çevrelerinden sınırlı, içlerinde beyaz, yoğun kıvamlı içeriğin bulunduğu yapılar görüldü. Sitolojik olarak, granüler, bazofilik ve şekilsiz kalsiyum kümeleri görüldü. Bunların aralarında tek tük makrofajlar ve lenfositlerle karşılaşıldı. Histolojik olarak, dermiste, ortalarında Hematoksilenle koyu mor, Alzerin Red S boyamasında ise kırmızı-turuncu renkte boyanmış kalsiyum birikimlerinin çevrelerinden makrofajlar, plazma hücreleri ve lenfositlerle birlikte dev hücrelerinin bulunduğu, bağ dokusu ile sınırlandırılmış yapılar görüldü. Kitlenin yerleşim yeri metatarsus eklemi hizasında olması bilinenlerden farklı bir lokalizasyonu göstermektedir. Genellikle büyük cüsseli köpeklerde görülsa de söz konusu vaka küçük cüsseli ırklar arasında değerlendirilebilir. Çalışmayı oluşturan köpeğin yaşı ise literatür verileriyle paraleldir. Bu oluşumlar tümör olmayıp neoplazik özellikler göstermezler. Sinovial osteokondromatosizlerle veya kırıkta bulunan tümörleriyle karıştırılmamalıdır. Bu çalışmayla veteriner klinisyenlerinin karşılaşılabilecekleri bu gibi lezyonlara farklı bir bakış getirmek amaçlanmıştır.

Anahtar kelimeler Köpek, kalsinozis sirkumskripta, sitopatoloji

The cytopathological and clinicopathological findings of calcinosis circumscripta

Abstract Calcinosis circumscripta which tumor like lesion, is characterized by calcium deposition and rarely seen in soft tissues. It is generally localized in pads in multiple the masses and seen in < 2 years old and huge breed dogs. In the case, calcinosis

circumscripta localized in left hind limb were described cytologically and clinicopathologically in a dog. The biopsy were obtained from an one-year old, female, mongrel dog, localized in dorso-medial of left metatarsus. in clinically, Cytologic slides were prepared with impression method and stained with May-Grunwald Giemsa. Tissue samples were processed routinely and stained with Hematoksilen-Eosin (H&E) and Alizerin Red S and observed under light microscope. Radiography was revealed radiopaque and non-invasive mass which localized in lateral of third phalanx and metatarsus. Mass were removed operationally under general anesthesia. Biopsy were evaluated as 3x2x2 cm in diameters, 5 g in weigh, hard and cover with skin. On cut section, it was seen lobullary and filled with mucin. Cytologically, it was seen granular, basophilic, amorf and dense calcium deposition. A few macrophages and lymphocytes were encountered between these areas. Histopathologically, many foci were restricted from connective tissue and constituted from calcium deposition (purple with Hx E stain and red or orange with Alizerin Red S) at centre and macrophages, plasma cells, lymphocytes and giant cells in priphery. The that localization of mass is different from reported before. The case is encountered in a smaller dog and can be evaluated originally because the lesions are generally seen in huge breed dogs. The age of dog in the case is accorded with literatures. The mass is non neoplasial lesion and no metastasize. But, they should not be distinguished with these because it has great similarities to synovial osteochondromatosis or other chondromal tissues tumors. In the case, it is aimed to be provided a different point of view for these kind of lesions to clinicians in veterinary medicine.

Keywords Dog, calcinosis circumscriptosis, cytopathology

Kedide konjenital toksoplazmoz: Gebe kedi ve yavrusunda ölümcül sistemik enfeksiyon

H.T. ATMACA¹, **G.C. DİNÇEL**¹, H.C. MACUN², O.S. TERZİ¹, T. UZUNALİOĞLU¹, H. KALENDER², O. KUL¹

¹Kırıkkale Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kırıkkale

²Kırıkkale Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Kırıkkale

Özet Bu çalışmada, güç doğum şikayeti ile gelen ve sezaryen operasyonu yapıldıktan sonra ölen 2.5 yaşlı tekir kedi ile yavrusunda tespit edilen sistemik toksoplazmoz olguları rapor edilmektedir. Operasyon sırasında beş yavrudan üçünün anne karnında ölü, diğer ikisinin ise canlı olduğu görüldü. Anne kedi operasyon sonrası 2 nci gün, yavruardan birisi ise 10 ncu gün öldüler ve sistemik nekropsileri yapıp alınan doku örnekleri % 10 tamponlu formalinde tespit edilerek, rutin doku takibi yapıldı. Lezyonlu doku kesitlerine, poliklonal tavşan anti-*Toxoplasma gondii* antikorunu kullanılarak immunoperoksidaz test uygulandı. Anne kedide makroskobik olarak, en çarpıcı bulgu akciğerlerde dissemine boz beyaz renkte nekrozlar ile hafif bronşiektazi ve amfizematik alanların görülmesiydi. Karaciğerde ise özellikle diyaframatik yüzeyde seçilen boz beyaz alacalı ve geniş solgun alanlar dikkati çekti. Histopatolojik incelemelerde; alveol lümenlerinde ödem, dökülmüş epitel hücreleri ile çok sayıda alveolar makrofajlar, nekrotik bronşiolitis tespit edildi. Karaciğerde diffuz yağlanma ile Kupffer hücre hiperplazisi belirgindi. Hem yavru hem de annede makrofajların sitoplazmalarında takizoit benzeri yoğun granüler yapılar dikkati çekti. Taramalı elektron mikroskobu ile incelemelerde akciğerdeki nekroz ve alveoler makrofajlar belirgin bir şekilde ortaya konulurken, serbest takizoitlere rastlanmadı. Immunoperoksidaz boyamalarda, her iki kedide de alveoler makrofaj, Kupffer hücreleri, bronş, bronşiol epitel hücreleri ile nekrotik odaklar ve dalaktaki sinüzoidal makrofajlarda granüler tarzda çok yoğun *T. gondii* immunopozitif reaksiyonların görülmesiyle sistemik toksoplazmoz tanısı doğrulandı. Bu çalışma, annede görülen ölümcül sistemik toksoplazmozun transplasental olarak yavruya geçişinin tanımlandığı, Türkiye’de kedilerdeki transplasental toksoplazmozisi gösteren ilk rapor olma niteliğindedir.

Anahtar kelimeler İmmunoperoksidaz, *Toxoplasma gondii*, transplasental toksoplazmoz

Feline congenital toxoplasmosis: Fatal systemic infection in pregnant cat and its kitten

Abstract In this study, it is reported that systemic toxoplasmosis in 2.5-year-old pregnant cat suffering from dystocia died after cesarean operation and in its kitten. The mother cat and its kitten died following 2nd and 10th days of operation, respectively. Tissue samples of both animals were fixed in 10% buffered formalin and routine pathological procedure was followed. Immunoperoxidase test was applied to the lesioned tissues using polyclonal rabbit anti-*Toxoplasma gondii* primary antibody.

The most prominent macroscopic finding in the cat was lung lesions which are characterized by disseminated white-gray necroses, bronchiectasis and emphysema. Liver have had broad and pale, mottled areas especially in diaphragmatic surfaces. Histopathologically; in the lungs, edema in alveolar spaces, desquamated epithelial cells, alveolar macrophages, necrotic bronchitis and bronchiolitis were seen. Hyperplasia of Kupffer cells and diffuse fatty acid degeneration were detected in the liver. Tachyzoite-like intensive granular structures in the cytoplasm of macrophages were evidenced in the both cats tissue samples. Necrosis and alveolar macrophages but not free tachyzoites in the lungs were clearly demonstrated using scanning electron microscope. Observation of imunopositive granular reactions in necrotic areas, macrophages, bronchial and bronchiolar epithelial cells confirmed that the diagnosis of acute systemic toxoplasmosis. In conclusion, in this report, feline fatal systemic toxoplasmosis in two cats, the mother and its kitten, was described. As the authors' knowledge, transplacental transmission of *T.gondii* infection in the cats is reported for the first time in Turkey.

Keywords *Toxoplasma gondii*, immunohistochemistry, transplacental toxoplasmosis

**POSTER BİLDİRİLER (PROGRAM SIRASINA GÖRE) /
POSTER PRESENTATIONS (IN PROGRAM ORDER)**

Hexachlorocyclohexane (HCH- γ -isomer, lindane) intoksikasyonun rat testislerindeki proliferasyon ve apoptosis üzerine etkisi

H. YÜKSEL¹, E. KARADAŞ², H. KELEŞ², H.H. DEMİREL²

¹Bingöl Üniversitesi, Sağlık Hizmetleri Meslek Yüksekokulu, Bingöl

²Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyon

Özet Bu çalışmada, deneysel olarak lindane uygulaması yapılan rat testislerinde, germ hücrelerinde meydana gelen apoptosis ve proliferasyon histopatolojik ve immunohistokimyasal olarak incelendi. Toplam olarak 40 adet 3 aylık – fertil- sağlıklı rat kullanıldı. Hayvanlar her bir grupta 10 rat olacak şekilde 4 gruba ayrıldı. Grup I (kontrol) yalnızca saf zeytin yağı verildi. 2, 3, ve 4. deneme gruplarına 10, 20, 40 mg / kg / vücut ağırlığı oranında lindane, gastrik gavaj ile 30 gün boyunca verildi. Mikroskopik olarak lindane uygulanan deneme grubu ratların testislerinde dejeneratif değişiklikler gözlemlendi. Proliferatif aktivite için PCNA immunboyama, germ hücrelerindeki apoptosis için ise TUNEL metod uygulandı. Kontrol grubunda güçlü bir PCNA pozitiflik olmasına rağmen, özellikle yüksek doz lindane uygulanan gruplarda dereceli olarak bir azalma gözlemlendi. Kontrol grubu ile karşılaştırıldığında lindane uygulanan gruplarda apoptosis de ise önemli bir artış vardı. Lindane uygulanan gruplar kontrol grubu ile karşılaştırıldığında testosteron konsantrasyonunun kontrol grubuna göre düşük olduğu görüldü. Sonuç olarak, yüksek doz lindane intoksikasyonunun, rat testislerinin germ hücrelerinde apoptozisde artış ve proliferasyonda azalmaya yol açarak spermatogenezisin baskılanmasına katkıda bulunduğunu gösterdi.

Anahtar kelimeler Lindane, spermatogenesis, germ cells, apoptosis, PCNA, testostereone

Effects of hexachlorocyclohexane (HCH- γ -isomer, lindane) intoxication on the proliferation and apoptosis in rat testes

Abstract In this study, experimentally lindane induced histopathologic changes and proliferation and/or apoptosis in germ cells in the rat testes were investigated. A total of 40 healthy fertile 3 month-old male rats were used. Animals were divided into 4 groups each containing 10 rats. Group 1 (control) was given only pure olive oil, Groups 2, 3 and 4 were administered 10, 20 and 40 mg/kg/bw- lindane, respectively, by gastric gavage for 30 days. Microscopically, degenerative changes were observed in the lindane-treated groups. For proliferative activity PCNA immunolabelling and for germ cells apoptosis TUNEL methods were performed. Although a strong PCNA positivity in the control group was observed a gradual decrease was noted in the lindane-treated groups especially in higher doses. Significant increases of apoptosis were seen in the lindane-treated groups compared with the control group. A decrease in the testosterone concentrations was observed in lindane-treated groups compared to the control group. The study indicates that high-dose lindane intoxication contributes to

the suppression of spermatogenesis through a reduction of germ cell proliferation and increase of germ cell death in rat testes.

Keywords Lindane, spermatogenesis, germ cells, apoptosis, PCNA, testosterone

Bir inekte vaginal fibroleiomyom

N. TİMURKAAN¹, M. AYDIN², **F. YILMAZ**³, A. ÇEVİK¹

¹Fırat Üniversitesi, Sivrice Meslek Yüksekokulu, Elazığ

²Fırat Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Elazığ

³Fırat Üniversitesi, Sağlık Yüksekokulu, Elazığ

Özet Bu çalışmada bir ineğin vaginasında saptanan fibroleiomyom olgusunun makroskopik, mikroskopik ve immunohistokimyasal bulguları tanımlandı. Beş yaşında Simental -Montofon melezi bir ineğin vagina mukozasına yapışık labium vulvaya yakın 6 adet neoplastik kitle belirlendi. Cerrahi müdahale ile vaginal yoldan alınan kitlelerin katı kıvamda ve iyi sınırlandığı saptandı. Mikroskopik incelemede, belirgin bir kapsüle sahip olmayan neoplastik kitlenin, Masson's trichrome ile yapılan boyamalarda, kas dokusu ile bağdokusu komponentlerinden oluştuğu belirlendi. İmmunohistokimyasal olarak, tümör kitlesini oluşturan tüm hücreler vimentin pozitif reaksiyon gösterdi. Düz kas aktin aktivitesi bağdoku içinde demetler halinde bulunan kas dokusu alanlarında pozitiflik gösterirken, histiyositomlar için spesifik bir marker olan CD 68'in negatif olduğu görüldü. Tanımlanan tümör belirgin pleomorfizm, invazyon, dev hücre, atipi ve mitotik figürler gibi malign bulgular göstermediğinden benign olarak değerlendirildi.

Anahtar kelimeler Vagina, fibroleiomyom, patoloji, inek

Vaginal fibroleiomyoma in a cow

Abstract This paper describes a case of fibroleiomyoma seen in the vagina of a cow, diagnosed on the basis of macroscopic, microscopic and immunohistochemical findings. A five year-old female, Simmental and Brown Swiss crossbreed cow presented with six neoplastic masses located on the vaginal wall. The masses were surgically removed through the vaginal route and were firm and well demarcated. Microscopic examination showed that the non-encapsulated neoplastic nodules consisted of the admixture of smooth muscle and connective tissue, and Masson's trichrom differentially stained muscle and connective elements. Immunohistochemical examination revealed strong focal positive reactions for smooth muscle actin and vimentin, but no positive reaction for CD 68 which is a specific marker for histiocytomas. The tumour reported here was considered benign because of the lack of clear pleomorphism, invasiveness, multinuclear giant cells and atypia, and low mitotic activity.

Keywords Vagina, fibroleiomyoma, pathology, cow

Rat testislerinde pamuk tohumu ununun androjen reseptörler üzerine etkileri

N. TİMURKAAN¹, F. YILMAZ², S. TİMURKAAN³

¹*Fırat Üniversitesi, Sivrice Meslek Yüksekokulu, Elazığ*

²*Fırat Üniversitesi, Sağlık Yüksekokulu, Elazığ*

³*Fırat Üniversitesi, Veteriner Fakültesi, Histoloji-Embriyoloji Anabilim Dalı, Elazığ*

Özet Bu çalışma ratların yemlerine pamuk tohumu unu (PTU) ilavesinin testislerin androjen reseptörleri (AR) üzerindeki etkisini araştırmak ve PTU'nun neden olduğu infertilitenin patogeneze katkı sağlamak amacıyla yapıldı. Toplam 50 adet erkek rat 5 gruba ayrıldı ve yemlerine % 0, % 5, % 10, % 20 ve % 40 oranlarında pamuk tohumu ilave edilerek 60 gün süre ile beslendi. Her gruptan 20 ve 60. günlerde 5 rat eter anestezisi altında dekapite edilerek testisleri alındı ve formol ile tespit edilen dokular androjen reseptör (AR) primer antikoları kullanılarak Streptavidin-biotin-peroxidase methodu ile boyandı. Çalışmada kontrol grubu ile kıyaslandığında AR pozitif Leydig, Sertoli ve peritubular myoid hücre sayılarında önemli derecelerde azalma gözlemlendi. Testislerdeki AR pozitif hücre sayılarındaki bu azalmanın doza ve süreye bağlı olduğu dikkati çekti. Sonuç olarak, ratların yemlerine PTU ilavesinin testislerde AR pozitif Leydig, Sertoli ve peritubular myoid hücre sayılarında azalmalara neden olduğu, AR pozitif Leydig ve Sertoli hücre sayısındaki azalmanın infertilitenin muhtemel nedenleri arasında olabileceği kanantine varıldı.

Anahtar kelimeler Pamuk tohumu unu, androjen reseptör, immunohistokimya, testis, rat

Effects of cottonseed flour on androgen receptors in rat testes

Abstract The objective of the present study was to investigate the effect of consumption of cottonseed flour (CSF) on immunohistochemical localization of androgen receptors in rat testes and provide additional mechanistic information on the effect on testes by CSF. A total of 50 male rats were divided into 5 groups and each group was fed with a diet containing cottonseed flour at a level of 0% (control), 5%, 10%, 20%, and 40% for 60 days. Five rats from each treatment group were selected randomly on days of 20 and 60, and decapitated under ether anaesthesia. Testicles were fixed in 10% neutral buffered formalin, and stained with Streptavidin-biotin-peroxidase method. Quantitative evaluation of Leydig, Sertoli and peritubular myoid cells in the testes indicated that the numbers of androgen receptor (AR) positive cells in the CSF treated groups were significantly lower than those found in the control group, and these effects were both dose and time dependent. In conclusion, addition of CSF to the diets of rats decreased the AR immunopositive Leydig, Sertoli and peritubular myoid cell numbers and these effects were both dose and time dependent. Our data suggest that CSF-induced decrease in AR in Leydig and Sertoli cells may be the cause of infertility.

Keywords Cottonseed flour, androgen receptor, immunohistochemistry, testes, rat

Ratlarda gentamisin sülfat nefrotoksisitesinde *Nigella sativa*'nın koruyucu etkisi

İ. YAMAN¹, E. BALIKÇI²

¹Fırat Üniversitesi, Sivrice Meslek Yüksekokulu, Elazığ

²Fırat Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Elazığ

Özet Bu çalışma ile gentamisin sülfat nefrotoksisitesinde *Nigella sativa*'nın koruyucu etkisinin araştırılması amaçlandı. Bu amaçla çalışmada kullanılan hayvanlar (24 adet Wistar-albino rat); kontrol grubu, gentamisin sülfat (GS) grubu (100 mg/kg i.p.), nigella sativa düşük doz + gentamisin sülfat (NSD + GS) grubu (0.2 ml/kg + 100 mg/kg i.p.) ve *Nigella sativa* yüksek doz + gentamisin sülfat (NSY + GS) grubu (0.4 ml/kg + 100 mg/kg i.p.) olarak 4 eşit gruba ayrıldı. GS grubunda, GS nefrotoksisitesinin bir sonucu olarak, plazma kreatin ve üre seviyelerinin önemli ölçüde arttığı saptanırken, NSD + GS ve NSY + GS gruplarında ise bu parametrelerin GS grubuna göre önemli ölçüde azaldığı gözlemlendi. GS grubunda, kontrol grubuna göre plazma MDA ve NO seviyelerinin önemli ölçüde arttığı (p<0.05) bununla birlikte eritrosit SOD ve GSH-Px aktivitelerinin ise önemli ölçüde azaldığı saptandı (p<0.05). NS + GS (düşük ve yüksek doz) gruplarında, GS grubuna göre, plazma MDA ve NO seviyelerinin önemli ölçüde azaldığı ve eritrosit SOD ve GSH-Px aktivitelerinin ise arttığı belirlendi. Histopatolojik olarak, GS grubu hayvanların böbrek proksimal tubul epitel hücrelerinde dejenerasyon, vakuolizasyon, nekroz ve dökülme ile birlikte, tubul lumenlerinde hiyalin damalcıkları, intertubuler bölgede mononükleer hücre infiltrasyonları, glomerular ve bazal membranlarda patolojik değişiklikler gözlemlendi. GS grubunda belirlenen böbrek hasarı NS ilave edilmiş (düşük ve yüksek doz) gruplarda oldukça hafif gözlemlendi. Sonuçta, tespit edilen biyokimyasal ve histopatolojik parametreler ışığında, GS'nin böbreklerdeki toksik etkisini önlemek için, NS'nin potansiyel bir serbest radikal süpürücüsü olarak kullanılabileceği kanısına varıldı.

Anahtar kelimeler Gentamisin sülfat, nefrotoksisite, *Nigella sativa*, antioksidan

Protective effects of *Nigella sativa* against gentamicin-induced nephrotoxicity in rats

Abstract The aim of this study was focused on investigating the possible protective effect of *Nigella sativa* (NS) against gentamicin-induced nephrotoxicity. Twenty four Wistar-albino rats were divided into four equal groups as follows: control group, gentamicin sulphate (GS) group (100 mg/kg i.p.), *Nigella sativa* low dose + gentamicin sulphate (NSL + GS) group (0.2 ml/kg + 100 mg/kg i.p.) and nigella sativa high dose + gentamicin sulphate (NSH + GS) group (0.4 ml/kg + 100 mg/kg i.p.). Plasma creatinine and urea levels significantly increased as a result of nephrotoxicity in the GS group. Also, creatinine and urea levels significantly decreased in NSL + GS and NSH + GS groups. In the GS group, plasma MDA and NO levels increased significantly (p<0.05) and erythrocyte SOD and GSH-Px activities decreased significantly (p<0.05) when compared with control group. NS administration with GS injection resulted in

significantly decreased MDA and NO generation and increased SOD and GSH-Px activities when compared with GS group. Proximal tubular necrosis, vacuolation, desquamation and degeneration in epithelial cells of the proximal tubules, hyaline casts in tubular lumen, mononuclear cell infiltration, glomerular and basement membrane alterations were histopathologically detected in the kidneys of the GS group. Co-treatments with NS (low and high dose) considerably decreased the renal damage when compared with the GS group. In conclusion, NS acts in the kidney as a potent scavenger of freeradicals to prevent the toxic effects of GS both in the biochemical and histopathological parameters.

Keywords Gentamicin sulphate, nephrotoxicity, *Nigella sativa*, antioxidants

Ratlarda yanık yaralarının iyileşmesi üzerine *Nigella sativa* ve silver sulfadiazine'in etkisi

İ. YAMAN¹, A.S. DURMUŞ², S. ÇERİBAŞI³, M. YAMAN⁴

¹Fırat Üniversitesi, Sivrice Meslek Yüksekokulu, Elazığ

²Fırat Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Elazığ

³Fırat Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Elazığ

⁴Fırat Üniversitesi, Veteriner Fakültesi, Histoloji-Embriyoloji Anabilim Dalı, Elazığ

Özet Bu çalışma, ratlarda yanık yaralarının iyileşmesinde *Nigella sativa* (NS) ve silver sulfadiazine'in (SSD) karşılaştırmasını yapmak için gerçekleştirildi. Elli dört Wistar albino rat üç eşit gruba ayrıldı. Bütün ratların sırtlarında yanık modeli oluşturuldu. Yanık bölgeler günlük olarak, birinci, ikinci ve üçüncü gruplarda sırasıyla cold cream (kontrol), NS (%50 NS yağı + %50 cold cream) ve SSD kremi ile kaplandı. Dört, 9 ve 14 gün sonra ratlar anestezi altına alınarak sakrifiye edildi ve histopatolojik muayeneler için yanık uygulanan deri bölgelerinden örnekler alındı. Histopatolojik olarak 4, 9 ve 14. günlerde NS ve SSD gruplarında, kontrol grubuna göre daha iyi bir iyileşme gözlemlendi. Yara iyileşmesi 4, 9 ve 14. günlerde gruplar arasında istatistiksel olarak önemli derecede farklı idi ($p < 0.001$). Sonuçta, NS ve SSD krem uygulamasının, deri yanıklarının iyileşmesi üzerine olumlu yönde etkili olduğu kanısına varıldı.

Anahtar kelimeler *Nigella sativa*, silver sulfadiazine, yanık, rat

Effects of *Nigella sativa* and silver sulfadiazine on burn wound healing in rats

Abstract This experiment was conducted to compare *Nigella sativa* (NS) and silver sulfadiazine (SSD) cream for healing of burned wounds in rats. Fifty four adult and male Wistar-albino rats were divided into three equal groups. A burned model was constituted on the back of all rats. The burned areas in the first, second and third groups were covered daily with cold cream (control), SSD cream and NS cream (50% NS oil + 50% cold cream) respectively. Four, 9 and 14 days later the rats were sacrificed and the burned skin tissue samples were collected from rats for histopathological examinations. Histopatologic evaluations, on the 4, 9 and 14th days showed that burn healing were better in NS and SSD groups with respect to the control group. Wound healing was statistically significantly different among the groups at 4, 9 and 14th days ($p < 0.001$). In conclusion, application of NS and SSD cream are effective in healing of burned skin wounds in rat model.

Keywords *Nigella sativa*, silver sulfadiazine, burn, rat

Sakız ırkı iki kuzuda konjenital epiteliogenezis imperfekta, palatoşizis ve brahignati inferiyör olgusu

E. ORUÇ

Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Bu gözlemden Sakız ırkı iki kuzuda palatoşizis ve brahignati inferiyör ile birlikte rastlanılan konjenital epiteliogenezis imperfekta, olgusu tanımlanmıştır. Makroskopik olarak, ekstremitelerin tarsal ve karpal eklemlerinden altta kalan bölgelerinde, kulak kepçelerinde ve dilde kutan mukoza şekillenmemiş ve dermis şiddetli kırmızı renkte ortaya çıkmıştı. Hayvanın alt çenesinin belirgin şekilde kısa olduğu ve ağız boşluğunun tavanında damağın kapanmamış olduğu tespit edildi.

Anahtar kelimeler Epitelyogenezis imperfekta, brahignati, palatoşizis

Congenital epitheliogenesis imperfecta, palathoschisis and brachygnathia inferior in two Sakiz lambs

Abstract In this report, the case of congenital epitheliogenesis imperfecta with palathoschisis and brachygnathia inferior were described in 2 Sakiz lambs. Grossly, cutaneous mucosa did not form on inferior extremities, pinna and tongue. These regions were red. In addition, it was observed that inferior maxilla was markedly short and palata did not knit on the roof of the mouth.

Keywords Epitheliogenesis imperfecta, brachiagnathia, palathoschisis

Bir köpekte metastatik akciğer adenoskuamöz karsinomu

Ş.Y. ÖZSOY¹, N. YUMUŞAK²

¹Mustafa Kemal Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Hatay

²Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

Özet Bu çalışmada bir aydır sol kaput humeride gelişen bir kitle ile üç haftadır öksürük şikayetiyle kliniğe getirilen 14 yaşlı Terrier ırkı dişi bir köpek değerlendirilmiştir. Hayvan hasta sahibinin isteği üzerine ötenazi edilmiştir. Makroskopik olarak akciğer paranzimi ve pluerada diffuz olarak çapları 1 mm'den 4cm'e kadar değişen çok sayıda beyaz, sert kıvamlı ve düzensiz görünüşte kitleler mevcuttu. Trakeyobronşiyal lenf yumruları büyümüş olup nekroz ve hemoraji dikkati çekti. Karaciğerde 4 mm çapında tek bir odak belirlendi. Sol kaput humeride ise nekroz fark edildi. Mikroskopik olarak tümörde adenokarsinom ve SCT'e ilişkin odaklar gözlendi. Adenokarsinom, pleomorfik yapıda, prizmatikten kübiğe kadar değişen, bez epitelinin andıran papiller veya tubuler yapılar oluşturan atipik hücrelerden oluşuyordu. Çoğu hücre çekirdekleri geniş, yuvarlak veya oval şekilli idi. SCT ise skuomöz benzeri sıralı dizilmiş büyük, hipokromatik çekirdekli ve belirgin nükleoluslu yassı hücrelerden oluşuyordu. Bu hücreler PAS ile pozitif boyandı. Mitoz yaygın değildi. Daha fazla solid alanlar içeren benzer tümör hücreleri traqueo-bronşiyal lenf yumrularında, karaciğer ve kemikte gözlendi. İmmunohistokimyasal olarak bez epitelyumu ve yassı hücrelerde belirgin pozitif reaksiyon mevcuttu. Bu bulgular ile akciğer adenoskuamöz karsinomu ve lenf düğümleri, karaciğer ve kemiğe metastaz tanısı konuldu.

Anahtar kelimeler Adenoskuamöz karsinom, akciğer, köpek, metastaz

Metastatic adenosquamous-cell carcinoma of the lung in a dog

Abstract The objective of the study were to describe pathomorphological and immunohistochemical features of adenosquamous-cell carcinoma of the lung in a dog. The dog, which is 14-year-old male Terrier. It was submitted to the clinic with complaint of cough for three weeks and a mass in left caput humeri for a month. Euthanasia was elected with owners request. Macroscopically, multiple, white, firm, irregular masses ranging 1 mm to 4 cm were diffusely distributed over, and attached to pulmonary parenchyma and pleura. Necrosis and haemorrhage were present tracheobronchial lymph nodes was enlargement. A single nodule 4 mm was detected in liver. Necrosis was detected in left caput humeri. Microscopically the tumour consisted of adenocarcinoma and SCT. The adenocarcinoma component was pleomorphic with atypical, columnar to cuboidal, glandular epithelium-like papillary or tubular. Most cells were round to ovoid, with large nuclei. The SCT component consisted of squamous epithelium like large tumour cells showing a paving-like arrangement, having clear nucleus and prominent nucleolus. The cells stained positively with PAS. Mitosis were uncommon. Similar neoplastic tissue but with a more solid pattern was detected in the tracheobronchial lymph nodes, liver and bone.

Immunohistochemically glandular epithelium and squamous cells was strongly positive with anti-keratin–cytokeratin. With these findings pulmonary adenosquamous carcinoma, which metastasis to lymph nodes, liver and bone was diagnosed.

Keywords Adenosquamous-cell carcinoma, dog, lung, metastasis

Bir köpekte konjunktival leiomyosarkom

N. YUMUŞAK¹, M. ÇALIŞKAN², O. KUTSAL³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Ankara Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Düz kasların malign tümörleri vücudun birçok bölgesinde görülse de daha çok gastrointestinal, üriner ve genital sistem başta olmak üzere birçok organ ve dokuya yerleşim gösterdikleri bildirilmiştir. Bu tümörlere 10,5 yaş ve üzeri köpeklerde daha sık karşılaşılr. Malign tümörler oluştukları bölgenin çok uzaklarına metastazlar ve invazyonlar yapabilirler. Bu çalışmada bir köpeğin konjunktivasında leiomyosarkom olgusu patomorfolojik olarak tanımlanmıştır. Bu çalışmanın materyalini sol gözün alt kapağında şişlik şikayeti bulunan 5 yaşlı, erkek bir köpeğin konjunktivasından alınan biyopsi materyali oluşturdu. Genel anestezi altında yapılan cerrahi operasyonla uzaklaştırılan doku örneğinden impresiyon yöntemiyle sitolojik preparatlar hazırlandı ve May-Grunwald Giemsa yöntemine göre boyandı. Doku örneği daha sonra rutin doku takibine alınarak hematoksilen eosin (HE) ve kas dokusu idendifikasyonu için Masson'un Trikrom boyamaları yapılarak ışık mikroskobunda incelendi. Tümöral kitle makroskobik olarak, 14 gr ağırlığında, 4x4x3 cm boyutlarında ve elastik kıvamlıydı. Kesit yüzü ise boz-beyaz renkte ve yer yer küçük kanama alanları mevcuttu. Sitolojik incelemede, iğ şeklinde, yuvarlak veya poligonal şekilli, veziküler çekirdekli ve ince granüler sitoplazmalı hücreler görüldü. Histolojik olarak ise çeşitli yönlerde kollar veren bantlar veya girdaplar yapmış, Masson'un trikrom boyası ile kırmızı renkte boyanan, oval veya uzunca görünüşlü anaplazik kas hücrelerinden oluşan yapılar kanama alanlarının eşlik ettiği görüldü. Gerek hayvanın yaşının literatür verilerinden daha genç olması ve gerekse leiomyosarkomların yerleşim yerleri göz önüne alındığında bu çalışmada ender olarak konjunktivada yerleşim göstermiş olması klinisyen veteriner hekimlere ve yapılacak çalışmalara ışık tutacaktır.

Anahtar kelimeler Köpek, konjunktiva, leiomyosarkom

Conjunctival leiomyosarcoma in a dog

Abstract It is reported that leiomyosarcoma is primarily localized in alimentary tract, urinary and genital systems although the tumors is seen in most parts of body. The tumors are encountered on 10.5 or older in dogs. The tumors can perform distant metastasis or invasion. In the study, leiomyosarcoma is described pathomorphologically in conjunctiva of a dog. The material was taken from left conjunctiva inferior over complaints of swelling in a 5 years old male dog. Cytological specimens were prepared from biopsy by using impression methods and they are stained with May-Grunwald Giemsa under the general anesthez Then, the tissue specimens were processed routinely and stained with haematoxylin-eosin (HE) and differentiation of muscle tissue were obtained by using Masson's Trichrome method.

All sections were observed under light microscope. Macroscopically, the mass were weight of 14 g, 4x4x3 cm in diameter, grayish-white and hard firm consistency. On cut section, there were generally grayish white color but included haemorrhagic foci in some areas. Cytological examinations, it was attended that spindle cells include round to poligonal shaped, hypochromatic nuclei and tiny granules in cytoplasms. Histologically, anaplastic muscle cells, were seen ovoid or spindle shape, had architecture of bundles in different way or whorles. The cells were differentiated by staining red in Masson's trichrome method. In addition, haemorrhagic areas were get along with these cells. The present case was rarely seen in terms of both age of animal and localization of leiomyosarcoma. It is thought to enlight to veterinarian in clinics and other studies.

Keywords Dog, conjuctiva, leiomyosarcoma

Bir kedide intrakranial psammomatöz meningioma

N. YUMUŞAK¹, Ş.Y. ÖZSOY², İ.A. ÖZKUL³

¹*Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa*

²*Mustafa Kemal Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Hatay*

³*Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara*

Özet Bu çalışmada, halsizlik, kafasının sağa sola çarpma, yürümede güçlük, görmede bozukluk gibi klinik bulgularla ötenazisi yapılan, 17 yaşlı, erkek bir kedide intrakranial psammomatöz meningioma olgusu tanımlanmıştır. Hayvan sahibinin isteği ile köpek ötenazi edildi. Rutin nekropsi tekniğine göre açılan kafatasında kalvaryumun, sağ caudalinde 2x2x1 cm boyutlarında, elastik kıvamlı, boz-beyaz renkte, lobuler görünümde bir kitleyle karşılaşıldı. Histolojik incelemede, atipik özellikler gösteren, mekik şekilli, belirgin eozinofilik sitoplazmalı, yuvarlak çekirdekli hücrelerin aralarında yoğun kollajen demetlerin varlığı görüldü. Ayrıca çok sayıda konsantrik lamellasyonların girdaplar halinde, merkezlerinde ise bazofilik mineralizasyon alanlarının olduğu psammom adacıkları dikkati çekti. Bu yapıların aralarında yarıklar halinde kollasterin kristallerinin olduğu fark edildi. Sonuç olarak kedilerde sık rastlandığı bildirilen ancak ülkemizde ilk kez bir kedide saptanan intrakranial psammomatöz meningioma makroskobik ve mikroskobik bulguları ile tanımlanmıştır.

Anahtar kelimeler Histopatoloji, kedi, psammomatöz meningioma

Intracranial psammomatous meningioma in a cat

Abstract In the present study, intracranial psammomatous meningioma was described in a 17 years old, male cat is submitted to clinics with history of weakness, incoordination, difficulty in walking and oversight. The animal is euthanased with request of owner of dog. At necropsy, the cadaver is evaluated systematically as to routin necropsy method. A mass, which had firm, grayish-white, lobullary and 2x2x1 cm in diameter, is described on right caudal calvarium. Histopathologically, atypic cells with spindle in shape, round nuclei and prominent eosinophilic cytoplasm were seen between dense collagenous stroma. Moreover, it is also attended concentric lamellar structure like whorls where had mineralization in centre. Mineralization of psammoma bodies were stained basophilically in HE. In addition, collestrin clefts were seen between collestrin crystals. As a result, although intracranial psammomatous meningioma seen frequently in cats, the tumour was described with macroscopic and microscopic findings in a cat, in our country initially.

Keywords Cat, psammomatous meningioma, histopathology

Bir Ankara kedisinde yumuşak dokunun malignant dev hücreli tümörü

N. YUMUŞAK¹, M. ÇALIŞKAN², O. KUTSAL³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Ankara Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Ekstraskelet dev hücreli tümör olarak da anılan bu tümörler veteriner hekimlikte ender karşılaşılan tümörlerdir. Köpek, kedi ve atlarda deri altında, eklem ve tendonların yakınlarında şekillenirler. Çevre dokulara ve organlara invazyonlar gösterirken metastazları ender görülür. Bu çalışmada, bir kedide yumuşak dokunun dev hücreli tümörü sitopatolojik ve patomorfolojik olarak tanımlandı. Bu çalışmanın materyalini 9 yaşında, Ankara ırkı, dişi bir kedinin sırtından genel anestezi altında alınan ve patolojik inceleme amacıyla getirilen biyopsi örneği oluşturdu. Cerrahi operasyon öncesi kitleden İnce İğne Aspirasyon Biyopsisi (İİAB) yöntemine göre sitolojik örnekler alınarak sürme preparatlar hazırlandı. Hazırlanan sitolojik preparatlar havada kurutulularak May-Grunwald Giemsa yöntemine göre boyandı. Operasyonla uzaklaştırılan biyopsi örneği ise rutin doku takibine alınarak hematoksilen eosin (HE) ve Masson'un Trikróm boyamaları yapılarak ışık mikroskopunda incelenerek resmedildi. Biyopsi materyali makroskopik olarak, 95 gr ağırlığında, 8x6x6 cm boyutlarında, üzeri deriyle kaplı ve fluktuan kıvamlıydı. Kesit yüzü boz-beyaz renkte yer yer kanamalı ve nekrotik bir görünümdeydi. Ayrıca bazı alanlarda içerisinde mukoid kıvamlı, hafif kanlı bir sıvının bulunduğu geniş kistik yapılarla karşılaşıldı. Biyopsi örneği rutin doku takibine alınarak hematoksilen eosin (HE) ve Masson'un Trikróm boyamaları yapıldı. Sitolojik olarak hazırlanan preparatlarda, pleomorfik şekilli, oldukça geniş ve vakuoller sitoplazmalı çok çekirdekli dev hücreleri dikkati çekti. Histolojik incelemelerde çeşitli yönlere girdaplar yapmış atipik özellikler gösteren bağ dokusu hücreleri ve histiositlerin aralarında, çok sayıda, oldukça geniş sitoplazmalı, çok çekirdekli dev hücreleri fark edildi. Yer yer hyalinize ve hatta nekroze olmuş bağdokusu hücrelerine kıkırdak ve kemik dokusuna ait yapılar eşlik etmekteydi. Sitolojiden elde edilen bulgular bu gibi tümörlerin ön tanısında yararlı bulunmuştur. Ayrıca çalışmanın karşılaşılan kitlenin yerleşim yerleri göz önüne alındığında ender olmasından dolayı bu konudaki çalışmalara katkılar sağlayacağı düşünülmüştür.

Anahtar kelimeler Ankara kedisi, sitoloji, yumuşak dokunun dev hücreli tümörü

Malignant giant cell tumor of soft tissue in an Ankara cat

Abstract This tumor is rarely encountered in veterinary medicine also named by extraskeletal tumor. The tumor is localized in subcutis and found adjacently to joints and tendons in dogs, cats and horses. Metastases are seldom seen in environmental tissue despite of invasion into organs. In the case, giant cell of soft tissue tumor was described cytopathologically and pathomorphologically in a cat. The material of the case biopsy taken from back of a 9 years old, female Ankara cat in general anesthesia

for pathological examination. Froties were prepared from cytological samples with Fine Needle Aspiration (FNA) methods in preoperation. Prepared cytological sections were air dried and stained with May-Grunwald Giemsa. Biopsies were removed in operation and routinely processed, stained with haematoxylin-eosin and Masson's trichrome. Sections were observed and imaged on light microscope. Biopsy were weighed of 95 g, diametered in 8x6x6 cm, covered with skin and fluctant consistency. Cut section were seen grayish-white within haemorrhagic and necrotic areas. In addition, large cysts fullled with mucinous and sanguinous fluid. Sections for cytological examination were attended giant cells composed of multiple pleomorphic nuclei and large, vacuolated cytoplasm. Histopathologically, atypic macrophages, fibrocytes, fibroblasts constituted to whorl and seen giant cells. Hyalinization and necrotic connective tissue were accorded to chondroid and osteoid tisse in some areas. Cytological findings of these kind of tumors are found usefully in prediagnosis. Additionally, it is thought that the study will provides to be maintained studies because of its localization and rarely seeing.

Keywords Ankara cat, cytology, malignant giant cell tumor of soft tissue

Bir kedide perinefrik psödokist olgusu

N. YUMUŞAK¹, M.E. ALÇIĞIR², S.A. VURAL³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Perinefrik pseödokistler köpek, kedi ve insanlarda ender olarak görülen, bir veya her iki böbrekte kapsul altında transudat, idrar veya lenf sıvısı birikimiyle karakterize kist benzeri oluşumlardır. Genellikle yaşlı ve erkek kedilerde karşılaşılr. Bilateral veya unilateral olarak şekillenebildikleri gibi unilateral olarak başlayıp bilateral olarak da seyredebilir. Olguda bir kedinin sağ böbreğinde perinefrik psödokist tanımlanmıştır. Olgunun materyalini kliniğe karın boşluğunda şişlik şikayeti ile getirilen 4 yaşlı, erkek bir kedinin formolde gönderilen sağ böbreği oluşturdu. Makroskobik değerlendirmeden sonra böbrek rutin doku takibine alındı ve parafin blokları hazırlandı. Bu bloklardan 5 µ kalınlığında kesitler alınarak Hematoksilen-Eozin, immunohistokimyasal olarak monoclonal mouse anti vimentin (Sigma St Louis, 1/100) ve monoclonal anti-alfa muscle actin (Sigma St Louis, 1/100) serumları kullanılarak avidin-biotin complex peroxidase (ABC-P) metodu ile boyandı. Kedinin sağ böbreği makroskobik olarak, 15x14x10 cm boyutlarında, lobuler görünümde ve kısmen fluktuan kıvamlıydı. Kesit yüzünde böbreğin normalden daha küçük olduğu, böbrek korteksinin sarımsı-beyaz renkte, medullasının ise daha kırmızı bir renkte olduğu dikkati çekti. Böbrek kapsulası oldukça genişlemişti. Korteks ile kapsül arasında adeta farklı genişliklerde kistik bir manzarada, içerisinde yoğun miktarda yeşilimsi-siyah renkte, jel kıvamında bir sıvının olduğu ve bu yapının tamamen böbreği çepre çevre sardığı görüldü. Mikroskobik olarak, böbrek kapsülünün oldukça genişlemiş ve yer yer hyalinize olduğu; kapsül ile böbrek korteksi arasında proteinöz bir materyalin bulunduğu ve bunun böbrek yapısını çevrelediği dikkati çekti. Immunohistokimyasal olarak bu kapsülün vimentin ile zayıf, aktinle ise oldukça belirgin pozitif reaksiyon verdiği görüldü. Ayrıca böbrek dokusunda oldukça hiperemik damarlar, tubul epitel hücrelerinde değişen şiddette dejeneratif değişiklikler ve intertubuler alanlarda lenfositlerin çoğunlukta olduğu mononükleer hücre infiltrasyonları fark edildi. Perinefrik psödokistlerin kedilerde ender görülmesi ve kedinin yaşının literatür verilerinin aksine daha genç olması nedeniyle olgu incelemeye değer bulunmuştur.

Anahtar kelimeler Perinefrik psödokist, kedi, immunohistokimya

A case of perinephric pseudocyst in a cat

Abstract Perinephric pseudocysts which seen rarely in dogs, cats and human, are likely to cystic structures characterized with accumulation of transudat, urine or lymph in subcapsular region of unilateral or bilateral kidney. They are generally seen old aged and male cats. They can be occurred unilaterally or bilaterally. They can initiate unilaterally and continued bilaterally. In the case, perinephric pseudocyst was

described in right kidney of a cat. The material was the right kidney lefted in operation from 4 years old, male cat which referred to clinic with complaint of abdominal distention. After macroscopical evaluation, kidney samples were processed and embedded in paraffine. The sections were cut at 5 μ thickness and stained with Heamatoxylin-Eosin (H&E). Immunohistochemically, same sections were evaluated by using monoclonal mouse anti vimentin (Sigma St Louis, 1/100) ve monoclonal anti-alfa muscle actin (Sigma St Louis, 1/100) sera and by Avidin-Biotin Complex Peroxidase (ABC-P) method (DAKO, LSAB-2 kit). Macroscopically, the right kidney of cat were diametered in 15x14x10 cm, seen lobullary and had fluctuant. On cut section, the kidney were smaller and cortex were yellowish-white colored, although its medulla seem clearly red when compare to its normally structure. Capsule of the kidney were thichnes prominently. The cyst localized between cortex and capsule and completely covered peripherally of kidney. And it was filled with densely greenish black colored and gelatinous content. Microscopically, the capsule were thickend and hyalinized. Proteinous material were present between capsule and cortex and surrounded completely to kidney. Immunohistochemically, capsule was reacted weakly with vimentin and evidently positive with actin sera. Additionally, it was attended that numerous hyperemic capillaries, different degree of degeneration in tubul epitheliums, mononuclear cell infiltration which composed dominantly lymhocytes in intertubular interstitium. The present case is worth to investigate because perinephric pseudocysts are rarely seen and encountered in the younger cat contrary to literature bases on age.

Keywords Perinephric pseudocyst, cat, immunohistochemistry

Köpeklerde benign ve malign perianal bez tümörlerinde peroksizom proliferatör-aktive reseptör (PPAR- α , - β , ve - γ) ekspresyonlarının immunohistokimyasal incelenmesi

R. TUNCA, H. AVCI, E.T. EPİKMEN, A. AYDOĞAN

Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın

Özet Peroksizom proliferatörleri ile aktive olan reseptörler (PPARs), nükleer bir reseptör olup, vücutta PPAR- α , PPAR - β , ve PPAR- γ şeklinde adlandırılan ve ayrı genler tarafından kodlanan üç farklı izoformu bulunur. PPARs lipid ve glikoz metabolizması, hücre proliferasyonu, yara iyileşmesi, oksidatif stres ve yangı gibi birçok hücrel ve metabolik olayların kontrolünde önemli görevleri bulunmaktadır. PPARs'in karsinogenezdeki görevleri tam olarak bilinmesine rağmen, tümöral hücrelerin büyümesinin düzenlenmesinde de rol oynadıkları bildirilmektedir. Çalışmada farklı yaş (8 yaş ve üzeri) ve ırklardaki köpeklerden alınan benign ve malign karakterde toplam dokuz adet perianal bez tümörleri kullanıldı. Makroskobik incelemeleri takiben alınan doku örneklerinde rutin histopatolojik incelemeler yapılarak ışık mikroskopunda incelendi. Hazırlanan doku örneklerinden alınan parafin kesitlerin PPAR- α , - β , ve - γ (Santa Cruz) primer antikoları ile streptavidin-biotin immunoperoksidaz yöntemiyle immunohistokimyasal boyamaları gerçekleştirildi. Immunohistokimyasal değerlendirmeler, ışık mikroskopunda 20'lik objektif altında semikantitatif olarak yapıldı. Histopatolojik incelemeler sonucunda 5 olgu hepatoid perianal gland adenom, 4 olgu ise hepatoid perianal gland karsinom olarak değerlendirildi. Immunohistokimyasal incelemede her üç antikor ile boyanmalar arasında belirgin farklılıklar görüldü. Her iki tümör tipinde reaksiyonlar nükleer boyanmalar şeklindeydi. Benign tümörlerde PPAR- α 'nın ekspresyon oranı PPAR- β 'ya göre daha yüksekti. Malign tümörlerde ise PPAR- α 'nın ekspresyon oranı PPAR- β 'ya göre daha düşüktü. Ayrıca PPAR- α ve β ekspresyon skorlarının benign tümörlerde malign tümörlere göre daha yüksek olduğu görüldü. Her iki tümör grubunda PPAR γ ekspresyonu ise oldukça zayıftı. Sunulan bu çalışma ile benign ve malign perianal bez tümörlerinde PPARs ekspresyonları immunohistokimyasal olarak değerlendirildi ve semikantitatif değerlendirme sonucunda benign ve malign perianal bez tümörleri arasında PPARs ekspresyonları yönünden farklılıklar olduğu görüldü.

Anahtar kelimeler Perianal bez tümörleri, immunohistokimya, peroksizom proliferatör-aktive reseptörleri

Immunohistochemical investigation of peroxisome proliferator-activated receptor (PPAR- α , - β , and - γ) expressions in benign and malignant perianal gland tumours of dogs

Abstract Peroxisome proliferator activated receptors (PPARs) are a family of nuclear receptors, and three isoforms called PPAR- α , PPAR- β , and PPAR- γ have been

identified, each encoded by separate genes in the body. They control many cellular and metabolic processes including lipid and glucose metabolism, cell proliferation, wound healing, oxidative stress and inflammation. Although, role of the PPARs in carcinogenesis is exactly unclear, its also play a role in the regulation of cancer cell growth. The study was carried out on benign and malign perianal gland tumours that taken from 9 dogs of various ages (8 years and over) and breeds. Following macroscopical examinations, tissues samples were prepared according to standard methods, and examined in a light microscope, then sections were stained with streptavidin-biotin immunoperoxidase method using PPAR- α , - β , ve - γ (Santa cruz) primary antibodies. In the immunohistochemical assessment, peroxidase labelling positive cells were assessed semi-quantitatively under light microscope with a 20X objective. According to histopathological findings, 5 tumours were diagnosed as a hepatoid perianal gland adenoma and 4 as hepatoid perianal gland carcinoma. In the immunohistochemical examination, there were marked differences in three antibodies, and the reactions were in the shape of nuclear staining. Expression rate of PPAR- α was higher than PPAR- β in benign tumours. In malign tumours, expression rate of PPAR- α was lower than PPAR- β . However, expression rates of both PPAR- α and PPAR- β were higher in benign tumours compared to malign perianal gland tumours. Expression of PPAR- γ was quite weak in benign and malign tumours. In the present study, expression of PPARs were immunohistochemically demonstrated in the benign and malign perianal gland tumours, and based on semiquantitative evaluation results, differences in terms of expressions of PPARs in both tumours were observed.

Keywords Perianal gland tumours, immunohistochemistry, peroxisome proliferator-activated receptors

İki köpekte granüloza hücre tümörü

R. TUNCA¹, G. SERİN², E.T. EPİKMEN¹, A. AYDOĞAN¹, H. AVCI¹

¹Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın

²Adnan Menderes Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Aydın

Özet Granüloza hücre tümörleri granüloza hücrelerinden köken alan ve ovaryumun en yaygın görülen kordon-stromal tümörlerdendir. Birinci olguda (iki yaşlı, kıрма köpek) klinik olarak; orta derecede vulvar ödem ve hemorajik akıntı mevcuttu. Transabdominal ultrasonografide sağ ovarium üzerinde 0,8 mm ve 10 mm boyutlarında iki kistik yapı dikkati çekti. İkinci olguda (dokuz yaşlı, Alman Çoban Köpeği) önceden kısırlaştırıldığı ve son üç aydır aralıklı olarak seyreden, kanamalı vaginal akıntının görüldüğü bildirilen, klinik muayenede şiddetli vulvar ödem; transabdominal ultrason muayenesinde sağ paralumbal bölgede hiperekojenik doku ile çevrelenmiş kistik bir yapıya rastlandı. Her iki olguda da vaginal smear’de keratinize superfisyal hücrelerin baskın olduğu görüldü. Laparotomide sağ paralumbal bölgedeki kitle uzaklaştırıldı. Postoperatif birinci haftanın sonunda vaginal kanama ve vulvar ödemde önemli oranda azalma, ilerleyen haftalarda ise tam iyileşme sağlandı. Alınan doku örnekleri %10 tamponlu formalin solüsyonunda tespit edilip parafinde bloklandıktan sonra 5 µm kesitler alınarak hematoksilin ve eozin (H.E) ile boyandı. Makroskopik olarak; birinci olguda sol ovarium 2.5x1.0x0.8 cm boyutlarında ve 2.11 g ağırlığında; sağ ovarium 2.5x1.0x1.0 cm boyutlarında ve 1.87 g ağırlığındaydı. Her iki ovariumun dış yüzünde, çapları 0.1 cm’den 0.3 cm’ye varan büyüklüklerde, çok sayıda, boz-beyaz renkli ve sert kıvamlı nodüller mevcuttu. Kesit yüzlerinde boz-beyaz renkli solid alanlardan oluşan lobuler görünümün yanında kanama odakları ve kistik yapılar göze çarptı. Ayrıca, sol ovaryumun dış yüzünde biri 0.8 cm diğeri 1.0 cm çapında, içleri seröz sıvı dolu kistler bulunmaktaydı. İkinci olgudan alınan biyopsi materyali, 4.0 x 1.3 x 3.3 cm boyutlarında ve 20 g ağırlığındaydı. Yüzeyinde yer yer boz-beyaz renkte ve sert kıvamlı nodüller mevcuttu. Mikroskopik olarak; birinci olguda her iki ovaryumun hem korteksinde hem de medullasında, ikinci olguda ise granülasyon dokusunun içinde olmak üzere, kalın fibröz stroma ile sınırlandırılmış kistik ya da solid yapılar halinde neoplastik alanlar dikkati çekti. Bu neoplastik yapılar; vakuoler sitoplazmalı, çekirdekleri yuvarlak ya da oval şekilli, pleomorfik, bir ya da birkaç sıra halinde dizilmiş neoplastik granuloza hücrelerinden oluşmuştu. Bu yapıların bazılarında rozet formasyonları ile granuloza hücreleri tarafından kuşatılmış ve merkezlerinde eozinofilik renkte proteinöz materyal içeren Call-Exner cisimcikleri dikkati çekti. Kimi alanlarda solid görünümde, kimi alanlarda ise sertoli hücre tümörünü andıran tubuler yapılar da belirlendi. Çalışmada, iki köpekte granüloza hücre tümörü klinik, makroskopik ve mikroskopik bulguları ile tanımlandı.

Anahtar kelimeler Granüloza hücre tümörü, klinik ve patolojik bulgular, köpek

Granulosa cell tumor in two dogs

Abstract Granulosa cell tumors arise from granulosa cells, which are the most common sex-cord stromal tumor of the ovary. In the first case (2-year-old, mongrel bitch), it was observed that moderate vulvar edema and hemorrhagic vaginal discharge during clinical examination before elective spaying. Two cysts with 0.8 and 10 mm diameters were determined on the right ovary during transabdominal ultrasonography. In the second case (9-year-old, German shepherd spayed bitch), there were severe vulvar edema and hemorrhagic vaginal discharge for three months. A cystic formation surrounded by hyperechogenic tissue was detected in the right paralumbar area during transabdominal ultrasonography. In both cases, keratinized superficial cells were observed dominantly in vaginal smear samples. The first case was undergone ovariectomy operation. For the treatment of the second case, the mass was removed following laparotomy operation. In the first week postoperatively, full recovery was obtained in both cases. The obtained tissues were fixed in 10% buffered formalin after routine procedures applied, it is stained with hematoxylin–eosin, then were examined under light microscopy. Macroscopically, in the first case, the left ovary was measured as 2.5x1.0x0.8 cm and 2.11 g, while the right ovary was measured as 2.5x1.0x1.0 cm and 1.87 g. Both the surface of the ovary, there were many grayish-white nodules with firm consistency with ranging from 0.1 cm to 0.3 cm in diameters. The cut surface had a lobular appearance that consisted of solid areas together with hemorrhages and cystic structures. In addition, the surface of the left ovary included serous cysts with 0.8 cm and 1.0 cm in diameters. The biopsy specimen obtained from the second case was in 4.0x1.3x3.3 cm size and 20 g weight, and grayish-white nodules in firm consistency were observed on the surface. Microscopically, in the first case, neoplastic areas including cystic and solid areas were seen in both cortex and medulla of both ovaries. Similar neoplastic areas surrounded by thick fibrous tissue were also found in the second case. These nodular neoplastic areas consisted of pleomorphic, one or more lined by neoplastic granulosa cells, with oval or round nuclei and vacuolated cytoplasm. In some of these structures, rosette-like structures and Call-Exner bodies including eosinophilic proteinaceous material located centrally were determined. In some areas of the both tumors, solid tubular patterns and tubular formations reminiscent of Sertoli cell tumor were also observed. In this report, granulosa cell tumor in two dogs was described with clinical, macroscopic and microscopic findings.

Keywords Granulosa cell tumor, clinical and pathological findings, dog

17 yaşlı bir kırma kedide multiple organ metastazlı ekzokrin pankreas karsinomu

R. TUNCA¹, H. AVCI¹, K. URAL², O.O. DERİNCEGÖZ³, A. ATASOY², E.T. EPİKMEN¹

¹Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın

²Adnan Menderes Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Aydın

³Adnan Menderes Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Aydın

Özet Bu çalışmada 17 yaşlı, dişi kırma bir kedide saptanan multiple organ metastazlı ekzokrin pankreas karsinomunun klinik, laboratuvar, radyolojik ve patolojik bulguları tanımlandı. Kliniğe agoni halinde getirilen ve 15 günlük letarji, kas zafiyeti ve depresyon anamnezi alınan kedinin fiziksel muayenesinde hemorajik diatez ve anemi mevcuttu. Serum biyokimyasal ve hematolojik analizlerde yüksek amilaz aktivitesi, düşük kan şekeri düzeyi, nonregeneratif anemi ile lökositozis belirlendi. Laterolateral pozisyondaki radyolojik incelemede göğüs boşluğu ve abdomende yaygın, çok sayıda ve etrafındaki dokudan zayıflıkla seçilebilen yuvarlak kitleler belirlendi. Başlangıç sağaltımı ve medikal uygulamalara rağmen kedi getirildikten 1 saat sonra öldü. Nekropside, sol pankreas lobunda 4.7x3.9x1.6 cm boyutlarında dış yüzeyi pürüzsüz ve düzgün görümlü, elastiki kıvamda, kesit yüzü boz beyaz renkte ve homojen tümöral kitle saptandı. Benzer makroskobik yapıya sahip tümöral yapılara, çapları 1.0 cm, 1.3 cm ve 1.7 cm olan odaklar şeklinde karaciğerin hem pariyetal hem de viseral yüzünde; çapları 0.3 cm ile 4.7 cm arasında değişen boyutlarda ise omentum, mezenteriyum, interkostal ve gluteal kaslar, inguinal meme lobları, alt dudak, akciğerin kranial ve kaudal lobları, trake, submandibular tükrük bezleri, lenf yumruları ve deride subkutan yerleşimli olarak rastlandı. Mikroskobik olarak, ekzokrin pankreas dokusundan köken alan tümöral alanların merkezleri nekrotikti. Diğer alanlar ise oval ya da poligonal yapılı, bazofilik nükleuslu ve vakuoler sitoplazmalı atipik hücrelerden oluşan solid adacıklar halinde idi. Bazı alanlarda ise bu adacıklar ince bir bağ doku ile sınırlandırılmıştı. Bazı neoplastik hücrelerin çekirdekleri taşlı yüzük görünümündeydi. Tümöral hücrelerde pleomorfizm oldukça belirgindi ve tek ya da çok çekirdekli dev hücrelerinin varlığı dikkat çekti. Benzer özellikteki neoplastik özellikler metastazların şekillendiği organ ve dokulardaki kitlelerde de saptandı. Ayrıca damarlar çevresinde ve yer yer de stromada mononükleer hücre infiltrasyonları görüldü.

Anahtar kelimeler Ekzokrin pankreas karsinomu, klinik ve patolojik bulgular, kedi

Exocrine pancreatic carcinoma with multiple metastases in a 17 year-old crossbred cat

Abstract In the present study, exocrine pancreas carcinoma with multiple metastases was described with clinical, laboratory, radiologic and pathological findings in a 17 year-old male crossbred cat. The cat was referred with a 15 days history of lethargy, muscle weakness and depression. On referral the cat was agonic. Hemorrhagic diathesis and anemia were evident on physical examination. High amilase activity, low

glucose level and non-regenerative anaemias with leukocytosis were evident on serum biochemical and hematological. The radiological evaluation in laterolateral position revealed generalized and multiple, poorly circumscribed masses in thorax and abdomen. Despite initial therapy and medical interventions the cat was dead 1 hour after referral. At necropsy, tumoral mass in left lobe of the pancreas with 4.7x3.9x1.6 cm in dimension was observed. The mass had an elastic structure with a smooth appearance on the surface. The cut surface was grayish white in color with smooth appearances. Similar tumoral masses with 1.0 cm, 1.3 cm and 1.7 in diameter were determined in both surfaces of the liver. The masses with range from 0.3 to 4.7 cm in diameters were also found in the omentum, mesenterium, intercostal and gluteal muscles, inguinal mammary lobes, trachea, submandibular salivary glands, lymph nodes and skin that which was localized subcutaneously. Microscopically, center of the tumoral masses that originated from the exocrine pancreas tissue including a large necrotic area. The other areas of the masses were consisted of solid islands with oval or polygonal atypical cells with basophilic nuclei and vacuolated cytoplasm. Some islands were surrounded by thin fibrous tissue. Some of nuclei of the tumor cells had a signet ring appearance. Pleomorphism was marked in the atypical cells, and binucleated or multinucleated giant cells were also determined. Similar neoplastic features were found in the metastatic tumoral masses. In addition mononuclear cells infiltration were observed around the blood vessels and in the stroma.

Keywords Exocrine pancreatic carcinoma, clinical and pathological findings, cat

Gökkuşuğu alabalıklarında (*Oncorhynchus mykiss* Walbaum, 1792) enfeksiyöz pankreatik nekrozun patogenezisinde apoptozisin rolü

N. TOPLU¹, H. ALBAYRAK², A. AYDOĞAN¹, E.T. EPİKMEN¹, N. METİN¹

¹*Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın*

²*Samsun Veteriner Kontrol ve Araştırma Enstitüsü, Samsun*

Özet Çalışmada, bir balık işletmesinde iştahsızlık ve yüzme bozuklukları gösteren, ortalama 5 g ağırlığında, 12 adet gökkuşuğu alabalığı incelendi. Histopatolojik incelemede, pankreasta ekzokrin bezlerin ve Langerhans adacıklarının fokal ya da diffuz nekrozları görüldü. İmmunohistokimyasal incelemede; enfeksiyöz pankreatik nekroz (IPN) viral antijenleri, yoğun olarak pankreas, karaciğer, kalp ve iskelet kasları daha az olarak da, böbrek, dalak, mide, bağırsaklar ve solungaçlarda ortaya konuldu. Ters transkriptaz polimeraz zincir reaksiyonu (RT- PCR) sonucunda; IPN virüsünü işaret eden yaklaşık 206 bp aralığında görüntü elde edildi. Apoptozis göstergelerinden TUNEL (Terminal Transferase dUTP Nick End Labeling), kaspaz -8 ve -9 pozitiflikleri; apoptozisin iskelet ve kalp kasında içsel ve dışsal uyarımlarla; karaciğer, dalak, böbrekler, sekonder lameller, mide, pilorik keseler ve bağırsaklarda içsel yol ile indüklendiğini gösterdi. Buna karşın, pankreasta TUNEL ve aktif kaspaz reaksiyonları göze çarpmadı. Apoptozis göstergelerinden içsel ve dışsal yolda ortak anahtar rol oynayan aktif kaspaz-3 immunreaksiyonu karaciğer epitel hücreleri, iskelet ve kalp kası miyositlerinin sitoplazmalarında belirgin şekilde dikkati çekti. IPN virüsü ile enfekte dokulardaki apoptozis sonuçları ile sağlıklı balık dokularındaki apoptozis sonuçları arasında istatistiksel olarak önemli bir farklılık belirlendi ($p<0,001$). Sonuç olarak, IPN virüsünün primer replikasyon alanı ve asıl lezyonların şekillendiği pankreasta apoptozis göstergelerinin kayda değer olmaması, buna karşın lenfoid hücrelerde apoptozisin indüklenmesi; IPN'un patogenezisinde apoptotik hücre ölüm mekanizmasının virüsün lehine olduğunu göstermektedir.

Anahtar kelimeler Apoptozis, kaspaz, gökkuşuğu alabalığı, IPN, immunohistokimya, RT-PCR, TUNEL

Role of apoptosis in pathogenesis of infectious pancreatic necrosis in rainbow trout (*Oncorhynchus mykiss* Walbaum, 1792)

Abstract In this study, total of 12 rainbow trout (average weight 5 g) from a fish farm were examined. Clinically, the fish showed inappetite and irregular swimming. In histopathological examination, focal to diffuse acinar cell degeneration and necrosis were observed in pancreas. Immunohistochemically, IPN viral antigens appeared especially in the pancreas, liver, cardiac and skeletal muscles, and occasionally in the kidneys, spleen, stomach, intestines and gills. In Reverse transcriptase-polymerase chain reaction (RT- PCR) examination, appropriately sized product (206 bp) were amplified from tissue samples and specific signals for IPN virus were observed. Apoptosis signals TUNEL (Terminal Transferase dUTP Nick End Labeling), caspases -8

and -9 positivities indicated that apoptosis was induced both by intrinsic and extrinsic pathways in the skeleton and cardiac muscles, whereas by only intrinsic pathway in the liver, spleen, kidneys, gills, stomach and intestines. However, TUNEL and active caspase reactions in the pancreas were not seen. Active caspases-3 immunoreaction which was clearly noticed in the epithelial cells of the liver and cytoplasm of the myocytes of the skeletal and heart muscles. Statistically, the apoptosis results showed significant difference between IPN virus infected fish tissues and healthy fish tissues ($p < 0,001$). In conclusion, apoptosis indicators are not significant in the pancreas which is primary replication area and occurrence of the main lesions of the IPN virus. Whereas, induction of apoptosis in the lymphoid cells could be appeared in favor of IPN virus in pathogenesis of the disease in field conditions.

Keywords Apoptosis, caspase, rainbow trout, IPN, immunohistochemistry, RT-PCR, TUNEL

Mycoplasma spp. ile doğal enfekte kınalı keklüklerde (*Alectoris chukar*) ve Japon bildircinlarında (*Coturnix coturnix japonica*) patomorfolojik ve immunohistokimyasal incelemeler

N. TOPLU, H. AVCI, E.T. EPİKMEN

Adnan Menderes Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Aydın

Özet Çalışmada, doğal enfekte Japon bildircinlarında (11 adet) ve kınalı keklüklerde (5 adet) *Mycoplasma spp.* tarafından oluşturulan mikoplazmozisin patomorfolojik bulguları ve immunohistokimyasal olarak da bakteriyel antijenlerin doku lokalizasyonları tanımlandı. Her iki hayvan grubunda, durgunluk, yem tükeminde azalma, zayıflama, serözden katarala kadar değişen tabiatta nazal akıntı ve hafif konjunktivitis dikkati çeken klinik bulgulardı. Bu bulguları takiben hayvanlarda genellikle 3-4 hafta içinde ölümlerin görüldüğü belirtildi. Mortalitenin Japon bildircinlarında % 37, kınalı keklüklerde % 43 olduğu bildirildi. Nekropside, nazal ve paranazal sinuslar, tek ya da çift taraflı, değişen derecelerde şişkin ve içleri sarımsak renkte kazeöz bir eksudatla ile doluydu. Şiddetli olgularda gözlerin tamamen kapanmış olduğu görüldü. Bazı olgularda hava keseleri kalınlaşmış ve mat bir görünüme sahipti. Histopatolojik incelemede; sinuslar genellikle nekrotik doku kalıntıları, dökülmüş epitel hücreleri, bakteri kümeleri ve heterofil lökositleri içeren kazeifiye eksudat içermekte idi. Sinuslarda muköz bezlerde hiperplazi, submukozada fokal lenfoid hücre hiperplazileri ve/veya diffuz mononükleer hücre infiltrasyonları birçok olguda dikkat çekici bulgulardı. Hava keseleri ödemliydi. Submukozada heterofil lökositler ve az sayıda mononükleer hücre infiltrasyonları yer almaktaydı. Akciğerlerde, sekonder bronşlar ve parabrönşoller etrafında mononükleer hücre infiltrasyonları ile birlikte fokal lenfoid hücre hiperplazileri görüldü. Tavuktan elde anti-*Mycoplasma gallisepticum* poliklonal antikoru kullanılarak yapılan immunofloresan incelemede, bakteriyel antijenler nazal ve paranazal sinuslardaki eksudat içerisinde yoğun şekilde; daha az olmak üzere trake, hava keseleri, akciğerler ve bağırsaklarda saptandı.

Anahtar kelimeler *Mycoplasma gallisepticum*, patoloji, immunofloresans, Japon bildircini (*Coturnix coturnix japonica*), kınalı keklük (*Alectoris chukar*)

Pathomorphological and immunohistochemical examinations in naturally infected Japanese quails (*Coturnix coturnix japonica*) and partridges (*Alectoris chukar*) with *Mycoplasma spp.*

Abstract The present study describes pathomorphological findings and tissue localisation of bactereial antigens immunohistochemically in naturally infected japanese quails (n: 11) and partridges (n: 5) with *Mycoplasma spp.* In both animal groups, lethargy, educe in the consumption of food, decrease in body condition, conjunctivitis as well as nasal discharge ranging from serous to catarrhal were of marked clinical findings. Following these findings, death of the animals ocurred usually within 3-4

weeks. Mortality was reported as 37 % in Japanese quails and 43 % in partridges. At necropsy, nasal and paranasal sinuses were swollen uni- or bilaterally at varying degrees, and filled with yellowish caseous exudate. In severe cases, eyes were completely closed. In some cases, air sacs with opaque appearance were thickened. In histopathological examination, sinuses were found to be filled with caseous exudate including necrotic tissue debris, clumps of bacteria, and heterophile leukocytes. In the sinuses of many cases, there were hyperplasia of mucous glands and focal lymphoid cell hyperplasia and/or diffuse mononuclear cell infiltrations in submucosa. The air sacs were edematous and submucosa of which had heterophile leukocytes and few mononuclear cell infiltrations. In the lungs, focal lymphoid cell hyperplasia as well as mononuclear cell infiltrations was found in secondary bronchi and parabronchi. In fluorescent antibody examination using polyclonal chicken anti *Mycoplasma gallisepticum* primary antibody, bacterial antigens were found abundantly in the exudate in nasal and paranasal sinuses and, to a lesser extent, in trachea, air sacs, lungs and intestines.

Keywords *Mycoplasma gallisepticum*, pathology, immunofluorescence, Japanese quails (*Coturnix coturnix japonica*), partridges (*Alectoris chukar*)

Bir ceylanda (*Gazelle gazelle*) saptanan hidatid kist olgusu

Y.S. SAĞLAM¹, K.A. TERİMKAPAKIN¹, İ. BALKAYA²

¹Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

²Atatürk Üniversitesi, Veteriner Fakültesi, Parazitoloji Anabilim Dalı, Erzurum

Özet Bu çalışmada, bir ceylanda (*Gazelle gazelle*) rastlanan karaciğerdeki hidatid kist olgusunun patolojik ve parazitolojik bulguları tanımlandı. Çalışmanın materyalini, Erzurum Palandöken ilçe belediyesine ait yerel bir parkta barındırılırken ölü olarak bulunan ceylana ait karaciğer organı oluşturmaktadır. Makroskopik olarak karaciğer oldukça sert kıvamda olup, hem visseral hem de pariyetal yüzeyinde diffuz dağılım gösteren, dışarı doğru taşkın ve yumuşak kıvamlı yoğun hidatik kist yapıları dikkati çekti. Bu kistlerin büyüklükleri 0.5 ile 2.5 cm arasında değişmekte olup, içleri sarımsı beyaz renkte sıvı ile doluydu. Kistlerdeki germinal membranlar ve kist sıvıları protoscoleks yönünden mikroskopik olarak incelendi ancak protoskolekslere rastlanılmadı. Mikroskopik incelemede, karaciğer glisson kapsülünde aşırı kalınlaşma, fibrozis ve pseudolobların oluşumu ile karakterize bir siroz tablosu ile birlikte parankimde yoğun kanama odakları ve parazite ait kist yapıları gözlemlendi. Kist duvarının çevresinde nekrotik alanlar, çok sayıda yabancı cisim dev hücreleri, epitelioid histiyosit, histiyosit, lenfosit ve eozinofilik hücre infiltrasyonu mevcuttu. Bu yapılar dıştan fibrosit ve fibroblastlardan oluşan fibröz bir kapsül ile çevrelenerek bir granülasyon dokusu şekillenmişti. Yabani hayat yaşayan bir ceylanda gözlenen bu hidatid kist olgusu, ilgili literatür ışığında dünyada ikinci, Türkiye’de bildirilen ilk olgudur.

Anahtar kelimeler Ceylan, ekinokokkozis, hidatidozis, vahşi hayvan

A case report: Hydatid cysts in a gazelle (*Gazelle gazelle*)

Abstract In this study, pathological and parasitological findings of a hydatid cyst case on a gazelle’s liver were described. The study material was obtained from a naturally death gazelle found in a local natural park belonging to Palandoken municipality. With regard to macroscopic findings, the liver had a firm consistency and dense soft consistent cystic structures which spread on both visceral and parietal surfaces. The size of these cysts were changing between 0.5- 2.5 cm and full of yellowish-white coloured liquid. The germinal membrane and liquid of the cysts were examined for protoscolex microscopically but no protoscolex was seen. Besides, the glisson's capsule of liver was considerably thick and fibrosis, cirrhosis characterized with pseudolobulus formation, dense haemorrhagic focus on paranchima and cystic structures of parasite were seen clearly on the liver. There were necrotic areas, many foreign body giant cells, epithelioid hystiocytes, hystiocytes, lymphocytes and eosinophilic cell infiltration around the cyst walls. These structures were surrounded with a fibrous capsule consist of fibrocytes and fibroblasts and formed a granulation tissue. According to current literature search this case report in a wild gazelle is the first in Turkey and the second in the world.

Keywords Echinococcosis, gazelle, hydatidosis, wild animal

Buzağıda konjenital nörofibromatozis

Y.B. KABAK, M.Ö. KARAYİĞİT, C. YARDIMCI, T. GUVENÇ, M. YARIM, M.Y. GÜLBAHAR

Ondokuz Mayıs Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Samsun

Özet Nörofibromatozis, evcil hayvanlarda nadiren görülen tümöral bir hastalıktır. Bu hastalık, buzağılarda sıklıkla göğüs bölgesi duvarının ve iç organların derin sinirlerinde meydana gelir. Bunun yanında deri de etkilenebilir. Bu çalışmada Simental ırkı bir buzağıda, deri ve göz bulguları olan konjenital nörofibromatozis olgusu tanımlanmaktadır. On günlük erkek simental buzağı, sol göz ve kafa derisindeki birçok konjenital tümöral kitleler nedeniyle değerlendirildi. Bu kitlelerden ikisi ceviz büyüklüğünde, siyah deri ile kaplı ve elastik-sert kıvamlıydı. Tümörlerden hazırlanan kesitler hematoxylin-eosin, Masson trikrom ve Masson Fontana boyaları ile boyandı. Bunun yanısıra kesitler vimentin, neuron specific enolase (NSE), S-100, alpha smooth muscle actin (ASMA) ve von Willebrand factor (vWF) ile de immunohistokimyasal olarak boyandı. Mikroskopik olarak tümör dokusunda, ince tel benzeri kollejen iplikleri arasında hiperkromatik, çekirdeği dalgalı görünümde, zayıf, ince uzun hücrelerden oluşan çok sayıda demetler halinde yapılar gözlemlendi. Bu yapılar aşırı pigmentli ve hiperplastik çok katlı yassı keratinize epitel ile örütülüydü. Ayrıca bu hücre demetleri etrafında yoğun kapillar proliferasyonu ve melanin ile yüklü hücreler tespit edildi. Bu yapılar immunohistokimyasal olarak vimentin, NSE ve S-100 için pozitifken, ASMA ve vWF ile negatif reaksiyon verdi. Nörofibromatozis Schwann hücreleri ve fibroblastlardan köken alır. Sığırlarda derialtında bulunan çoklu tümörler insanlardaki von Recklinghausen hastalığına benzer. Histokimyasal ve immunohistokimyasal olarak tanımlanan bu rapor, Türkiye'de bir buzağıda göz ve deri bulguları içeren ilk konjenital nörofibromatozis olgusudur.

Anahtar kelimeler Buzağı, konjenital tümör, nörofibromatozis

Congenital neurofibromatosis in a calf

Abstract Neurofibromatosis is a rare tumoral disease in domestic animals. In cattle, it occurs frequently in deeper nerves of the thoracic wall and viscera, however, skin may also be affected. This study describes a case of congenital neurofibromatosis with cutaneous and ocular manifestations in a Simmental calf. Ten-day-old male simmental calf was submitted for many congenital tumoral masses, on left eye and head skin. Two of them were covered by black skin and had a walnut size and elastic to hard consistency. The sections prepared from tumors were stained hematoxylin-eosin, Masson tricrome and Masson Fontana. Additional sections were also immunostained for vimentin, neuron specific enolase (NSE), S-100, alpha smooth muscle actin (ASMA) and von Willebrand factor (vWF). Microscopically, the tumor showed a heavily pigmented hyperplastic stratified squamous keratinized epithelium, which covered many fascicular structures composed of slender, elongated cells with hyperchromatic wavy nuclei between delicate wire-like collagen fibers. Extensive capillary

proliferations and melanin-loaded cells around fascicular structures were also observed. Immunohistochemically, these structures were positive for vimentin, NSE, S-100 whereas negative for ASMA and von Willebrand factor (vWF). Neurofibromatosis is originated from Schwann cells and fibroblasts. Multiple tumors including the subcutis in cattle resemble von Recklinghausen's disease in human. Histopathologically and immunohistochemically, the present report describes the first case of congenital neurofibromatosis having cutaneous and ocular manifestations in a calf in Turkey.

Keywords Calf, congenital neoplasm, neurofibromatosis

14 aylık bir kedide ovaryumda tek taraflı papiller kistadenokarsinoma

O. YILMAZ¹, M. UÇAR¹, **A. SEVİMLİ**², Ö. ŞAHİN³

¹Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Afyonkarahisar

²Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar

³Namık Kemal Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji Anabilim Dalı, Tekirdağ

Özet Hayvan hastanesine ovaryohistektomi için getirilen 14 aylık melez ırk bir kedinin (vücut ağırlığı 3 kg) operasyonu sırasında rastlantısal olarak sol ovaryumda yaklaşık 3 cm çapında içi sıvı dolu bir yapı tespit edildi. Karın boşluğunun muayenesinde başka bir makroskopik değişiklik gözlenmedi. Histopatolojik olarak sol ovaryumda papiller kist adenokarsinom olduğu belirlendi. Medulladaki rete ovarii'nin papillar tarzda kistik yapılara dönüştüğü tespit edildi. Tümör hücreleri farklı büyüklüklerde olup sirküler veya oval şekilde olduğu görüldü. Tümör hücrelerinin çekirdek-sitoplazma oranları farklı olup, çekirdekleri büyük ve bazofilik idi. Kist lümenlerinde herhangi bir yapıya rastlanmadığı, bununla birlikte mitotik figürlerin olmadığı gözlemlendi. Bu çalışmada papiller kist adenokarsinomun beklenilen aksine genç yaşta da oluşabileceği ve hatta metastaz yapmış ise doğal olarak ölüme neden olabileceği öngörülmektedir.

Anahtar kelimeler Kedi, ovaryum, papiller kistadenokarsinoma

Unilateral ovarian papillary cystadenocarcinoma in a 14-month-old cat

Abstract During the operation of a 14-month-old cross bred cat (body weight 3 kg) was referred to the animal hospital for ovariectomy, approximately 3cm in diameter a watery fluid filled structure was detected incidentally on the left ovary. On gross examination of the abdominal cavity, any other macroscopic changes were not observed. It was revealed on the left ovary as papillary cystadenocarcinoma as histopathologically. It was determined that rete ovarii in medulla was transformed to the cystic structures as well as the papillary formation. Tumour cells were different in size and they were either circular or oval. Furthermore, the nucleus-cytoplasm ratio was different and the nuclei of tumour cells were big and basophilic. No mitotic figures were seen, however, it was not observed any structure of the cyst lumen. In this study, it is suggested that papillary cystadenocarcinoma, contrary to expectations, may be also occurred in early ages and moreover, a cause of death if it metastasizes in nature.

Keywords Cat, ovary, papillary cystadenocarcinoma

Bir mandada uterusda serozal inklüzyon kisti ile birlikte gözlenen ovidukt kisti

A. SEVİMLİ¹, E. ÖZENÇ², D. ACAR²

¹*Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar*

²*Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Afyonkarahisar*

Özet 5 yaşlı, dişi, Anatolian water buffalo ırkı bir mandaya ait mezbahadan temin edilen uterusda, serozal inklüzyon kisti ile birlikte gözlenen oviduktta kist olgusu ele alındı. Kesim öncesinde yapılan genel muayenede herhangi bir sağlık probleminin olmadığı saptandı. Kesim sonrasında genital organlara yönelik su banyosunda yapılan ultrasonografik muayenede sol ovaryum üzerinde 1.6 cm çaplı folikülle birlikte sol ovaryum üzerinde korpus albicans tespit edildi. Mezbahada rastlantısal olarak karşılaşılan bu vakada hayvandan kan alınarak serum östrojen ve progesteron değerleri ölçüldü. Postmortal incelemede göğüs ve karın boşluğundaki organların yüzeyinde herhangi bir bulguya rastlanılmadı. Her iki kornunun serozasında çapları 0.3cm- 1 cm ye kadar değişen fluktuan yapıdaki multiple kist oluşumlarına rastlandı. Sağ ve sol oviduktun mezosalpinks kısmında çapları 0.5 cm ve 0.7 cm olan benzer yapıdaki kist oluşumları görüldü. Sağ ovaryum 2.3 cm x 1.2 cm, sol ovaryum ise 2.7 cm x 1.5 cm çapında idi. Doku örnekleri rutin olarak işlendi ve Hematoksilen-eosin ile boyandı. Histopatolojik incelemede uterusun sağ ve sol kornusunda serozada etrafı tek katlı yassı epitelden kübik epitele değişen epitelle sarılı kistlere rastlandı. Kistlerin bazılarının içi boş iken, bazılarında homojen pembe renkli vakuoler tarzda amorf yapılar görüldü. Uterusun myometriyumunda, endometriyumunda ve ovaryumda herhangi bir lezyona rastlanılmadı. Oviduktta da uterusda gözlenen kistlere benzer şekildeki kistler görüldü.

Anahtar kelimeler Manda, uterus, serozal kist, oviduk kisti

Oviduct cyst observed together with a uterine serosal inclusion cyst in a water buffalo

Abstract A case of oviduct cyst observed together with a uterine serosal inclusion cyst in a five-year-old female Anatolian water buffalo obtained from the slaughterhouse was examined in the case report. General examination before slaughtering revealed no health problems. A corpus albicans together with a follicle in 1.6 cm diameter, locating on the left ovary was detected during the ultrasonographic examination performed in a water bath of genital organs after slaughter. In this case, incidentally encountered in a slaughterhouse, serum estrogen and progesterone values were measured in the blood sample drawn from the animal. No abnormalities were seen on screening of the surfaces of the other thoracic and abdominal organs in the postmortal examination. Multiple formation of fluctuant cystic structures in diameter ranging from 0.3cm to 1 cm was observed. Cystic formations in similar structures in diameter ranging from 0.5cm and 0.7 cm were seen in the mesosalpinx of the right and left oviducts. Right

ovary was 2.3cm x 1.2 cm, left ovary was 2.7cm x 1.5 cm in diameter. Tissue samples were processed routinely and stained with hematoxylin and eosin stain. Cysts surrounded by epithelium differing from a single layer of flat epithelium to cubic epithelium were observed at the serosa of the right and left uterine cornus in the histopathological examination. Some of the cysts were empty inside; however, some of them were enclosed by homogeneous, vacuolar and amorphous structures pink in color. No myometrial, endometrial and ovarian lesions were found in the uterus. Cysts similar to the uterine cysts were seen also in the oviduct.

Keywords Water buffalo, uterine, serosal cyst, oviduct cyst

Bir Holstein inekte loblu dalak olgusu

A. HALIGÜR¹, **Ö. ÖZMEN**², M. HALIGÜR²

¹Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Anatomi Anabilim Dalı, Burdur

²Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur

Özet Holstein ırkı, üç yaşlı bir inekte kesim sonrası dalakta anormal loblaşma saptandı. Postmortem incelemede dalağın 3 lob ve iki çıkıntısı bulunduğu dikkati çekti. Dalağın rengi normaldi ancak kesit yüzünde lenfoid hiperplazi saptandı. Dalağın hilus'u, facies visceralis'in 1/3'lük kısmına yerleşmişti. Histopatolojik incelemede lenfoid hiperplazi dikkati çekti. Diğer iç organlarda anomali saptanmadı. Bu 3 yaşlı bir Holstein ineğinde karşılaşılan ilk loblu dalak olgusudur.

Anahtar kelimeler Loblu dalak, anomali, inek

A case of lobulated spleen in a Holstein cow

Abstract A case of abnormal lobulation of spleen in a three years old Holstein cow was described after slaughter. Post mortem examination of the cow revealed three lobes and two projections at the spleen. The color of the spleen was normal but lymphoid hyperplasia was observed at the cut surface. Hilus of the spleen was located on 1/3 of the facies visceralis. Histopathological examination of the spleen revealed that lymphoid hyperplasia. No abnormality was observed other visceral organs. This is a first case of lobulated spleen in a three years old Holstein cow.

Keywords Lobulated spleen, anomaly, cow

Mavidil, küçük ruminant vebası ve koyun çiçek virusu ile kombine enfekte koyunlarda patolojik, serolojik ve virolojik bulgular

Ö. ÖZMEN¹, M. KALE², M. HALIGÜR¹, S. YAVRU³

¹*Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur*

²*Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Viroloji Anabilim Dalı, Burdur*

³*Selçuk Üniversitesi, Veteriner Fakültesi, Viroloji Anabilim Dalı, Konya*

Özet Bu çalışmada, 250 başlık bir sürüden 15 koyunda doğal olarak birlikte seyreden mavidil, küçük ruminant vebası ve koyun çiçeği enfeksiyonunda patolojik, serolojik ve virolojik incelemeler yapıldı. Koyun çiçeği makroskopik ve histopatolojik olarak, mavidil, ELISA ile küçük ruminant vebası ise patolojik ve ELISA ile teşhis edildi. Klinik olarak, ateş, ishal, depresyon, hızlı solunum, konjunktivitis, lakrimasyon, rinitis, eroziv stomatitis, göz kapağı ödemi, fotofobi, özellikle derinin kılsız bölgelerinde ve yüzde görülen kutan erupsionlar ile papüller saptandı. Nekropside en fazla etkilenen organlar akciğerler ve bağırsaklardı. Subepikardiyal kanamalar sıklıkla gözlemlendi. Bazı kuzularda akciğerlerde tipik çiçek lezyonları gözlenmesine rağmen fibrinli plöropnömoni en belirgin akciğer lezyonuydu. Koyun çiçeği ve küçük ruminant vebası lezyonları, lezyonlu dokuların histopatolojik yoklamasında saptandı, mavidil lezyonları mikroskopik olarak koyun çiçeği ve küçük ruminant vebasından daha hafif düzeydeydi. Bu 15 hayvana ait serum ve lökosit örnekleri küçük ruminant vebası ve mavidil yönünden ELISA ile incelendi. Bunlardan 5 örnekte sadece küçük ruminant vebası, 6 örnekte sadece mavidil, 4 örnekte ise hem küçük ruminant vebası hemde mavidil birlikte pozitif olarak saptandı. Bu sürüde çoğu kuzu olmak üzere 100 hayvan öldü. Mortalite oranı kuzularda %100, tüm sürüde ise % 80'di.

Anahtar kelimeler Mavidil virusu, kombine enfeksiyon, ELISA, patoloji, küçük ruminant vebası virusu, koyun çiçek virusu

Pathological, serological, and virological findings in sheep infected simultaneously with bluetongue, peste-des-petits-ruminants and sheep pox viruses

Abstract In this study, pathological, serological and virological examinations were performed on 15 sheep from a flock of 250 sheep and lambs that suffer from simultaneous naturally occurring Bluetongue virus, Peste-des-petits-ruminants virus and Sheep poxvirus outbreaks. Sheep poxvirus was diagnosed macroscopically and histopathologically, Bluetongue virus was diagnosed by ELISA, and Peste-des-petits-ruminants virus was diagnosed pathologically and by ELISA. Clinically fever, diarrhea, depression, polypnea, conjunctivitis, lacrimation, rhinitis, erosive stomatitis, edema of eyelids, photophobia, cutaneous eruption with erythematous areas especially noticeable in wool-free parts of the body and axilla lesions evolving into papules were observed. At necropsy, the most effected organs were lungs and gut. Subepicardial

hemorrhages were also commonly seen. While typical pox lesions were observed in some lambs, usually fibrinous pleuro pneumonia was more prominent lung lesion. Sheep poxvirus and Peste-des-petits-ruminants virus lesions were seen at the histopathological examination of the lesioned tissues, Bluetongue lesions were mild than Sheep poxvirus and Peste-des-petits-ruminants virus microscopically. Serum and leukocyte samples of 15 animals were examined for Peste-des-petits-ruminants virus and Bluetongue virus by ELISA; 5 samples were positive for Peste-des-petits-ruminants virus and 6 Bluetongue virus, 4 were positive for both Peste-des-petits-ruminants virus and Bluetongue virus simultaneously. One hundred animals died, most were lambs. Mortality rates were 100% in lambs and 80% in the herd.

Keywords Bluetongue virus, combined infection, ELISA, pathology, peste-des-petits-ruminants virus, sheep pox virus

Koyun çiçeği enfeksiyonunda matriks metalloproteinazların (MMP) ve epidermal büyüme faktörü reseptörünün immunohistokimyasal olarak belirlenmesi*

M. HALIGÜR, Ö. ÖZMEN

Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur

Özet Poksvirusun epitel içindeki dağılımında matriks metalloproteinaz (MMP) ve epidermal büyüme faktörü (EGF) reseptörünün olası rolünden dolayı, bu çalışmada MMP'ler, MMP'lerin spesifik inhibitörleri (TIMP) ve EGF reseptörünün poksvirus ile enfekte koyun (15 koyun) ve sağlam koyun (5 koyun) deri ve akciğerlerindeki varlığının immunohistokimyasal olarak karşılaştırılması amaçlandı. Lezyonlu doku bölgesinde hipertrofi, hiperplazi, dejenerasyon ve nekroz ile beraber epitel hücrelerinde hiperkeratoz ve akantozis görüldü. Deri kesitlerinde koyun çiçeğinin karakteristik bulgusu olan koyun çiçek hücrelerine (cellules claveuses) ve eozinofilik intrasitoplazmik inklüzyon cisimciklerine sıklıkla rastlandı. Koyun çiçeği enfeksiyonunda, normal doku ile karşılaştırıldığında, MMP-2, 3 ve TIMP-1 immunreaksiyonları daha yoğun olarak saptanırken MMP-1, 7, 9 ve EGFR immunoreaktivitelerinde belirgin bir azalma görüldü. Bu çalışma MMP, MMP inhibitörleri ve EGF reseptörünün oluşum yolunu değiştirmesine yol açarak ekstrasellüler matriks disorganizasyonu ile koyun çiçeğinin deride hem epidermal hem de dermal kısımları etkileyebileceğini ortaya koymuştur.

Anahtar kelimeler Koyun çiçek virusu, immunohistokimya, matriks metalloproteinazlar, matriks metalloproteinaz doku inhibitörleri, EGF reseptörü, deri

*Bu çalışma Mehmet Akif Ersoy Üniversitesi Bilimsel Araştırma Projeleri Yönetim Birimi tarafından desteklenmiştir. (Proje No: 0008-NAP-07)

Immunohistochemical detection of matrix metalloproteinases (MMP) and epidermal growth factor receptor (EGFR) during sheep pox infection*

Abstract Because of the possible role of matrix metalloproteinases (MMP) and the epidermal growth factor receptor (EGFR) in the Pox virus dissemination within epithelia, the aim of this study was to compare the expression of MMPs, of specific inhibitors (TIMP) and of the EGF receptor (EGFR) in skin and lungs from Pox virus infected sheep (n=15) with tissues from healthy sheep (n=5) by immunohistochemistry. Hypertrophy, hyperplasia, degeneration and necrosis were found in damaged tissues and were associated with epithelial hyperkeratosis and acanthosis. Numerous sheep pox cells (cellules claveuses), characteristic of the pox virus infection, eventually containing eosinophil intra-cytoplasm inclusions, were frequently seen in the skin. Compared to normal tissues, the MMP-1, 7, 9 and EGFR immunoreactivity was markedly decreased whereas the MMP-2, 3 and TIMP-1

immunolabelling was stronger in tissues from Pox infected sheep. The present study showed that sheep pox virus infection can affect both epidermal and dermal component of the skin, with extracellular matrix disorganisation, leading to the altered pathway of the expression of the MMP and their inhibitors and of EGFR.

Keywords Sheep pox virus, immunohistochemistry, matrix metalloproteinases, tissue inhibitor matrix metalloproteinase, EGF receptor, skin

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Yeni Zelanda tavşanlarında mukoid enteropatide patolojik ve ultrastruktürel incelemeler

M. HALIGÜR¹, Ö. ÖZMEN¹, N. DEMİR²

¹Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur
²Akdeniz Üniversitesi, Tıp Fakültesi, Histoloji, Embriyoloji ve Temga Anabilim Dalı, Antalya

Özet İki ayrı sürüye ait toplam 20 adet, 3-7 haftalık Yeni Zelanda tavşanı karında şişkinlik, ishal ve dış gıcırdatma semptomları ile Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim dalına getirildi. Sürülerin birisi 1500, diğeri 200 tavşandan oluşuyordu. Her iki sürü sahibi de hayvanları sığırlar için hazırlanmış, yüksek enerji düşük lifli yemlerle besliyordu. Karın şişkinliği ve ishal, hasta tavşanların en belirgin klinik bulgularıydı. Mortalite oranları sırasıyla %35 ve 15'ti. Özel bir veteriner hekim tarafından antibiyotik tedavisi yapılmış olmasına rağmen ölümler devam etmekteydi. Hasta hayvanlar teşhis için laboratuvarımıza getirildi. Nekropside, mide ve jejunumda sıvı bir içerik ve gazlı şişkinlik, sekumun katı bir içerik ve kolonların mukoid eksudatla genişlemesi gözlemlendi. Histopatolojik olarak, bağırsak mukozasında belirgin goblet hücre hiperplazisi ile hafif yangı tespit edildi. Teşhisten sonra, yem değiştirildi, hasta hayvanlar iyileşti ve yeni ölümler gözlenmedi. Bağırsak epitellerinin elektron mikroskopik incelemesinde viral partiküller görüldü. Bu çalışma gıda içeriğinin mukoid enteropati oluşumunda başlıca sebep olduğunu ve viral etiolojinin bakteriyel ve parazitik etiolojiden daha önce düşünülmesi gerektiğini ortaya koymuştur.

Anahtar kelimeler İshal, elektron mikroskop, mukoid enteropati, *Oryctolagus cuniculi*, patoloji, tavşan

Pathological and ultrastructural studies on mucoid enteropathy in New Zealand rabbits

Abstract Twenty 3- to 7-week-old New Zealand rabbits from 2 different production facilities were presented to the Department of Pathology, Faculty of Veterinary Medicine, University of Mehmet Akif Ersoy, with symptoms of abdominal distension, diarrhea, and bruxism. The rabbit production facilities maintain approximately 1500 and 200 animals, respectively. The owners of both facilities stated that the rabbits were fed commercial cattle feed that contained high levels of energy and low fiber. Abdominal distention and diarrhea were the most prominent clinical signs affecting the diseased rabbits. Mortality rates at the 2 production facilities were 35% and 15%, respectively. Oral antibiotic treatment was prescribed by the veterinary practitioner who initially saw the cases, but there was no therapeutic response in the diseased rabbits. Affected rabbits were then presented to the pathology department at the University of Mehmet Akif Ersoy for diagnostic necropsy. The gross necropsy results revealed gastric and jejunal distention with fluid and gas, cecal impaction, and colonic distention with mucoid exudate. Histopathologically, marked goblet cell hyperplasia of

small intestinal mucosa with minimal bacterial proliferation was observed. After the diagnosis of enteropathy was confirmed, conversion to a higher-fiber, lower-energy diet was recommended. After the dietary change, affected animals recovered and there were no other deaths reported. Additionally, electron microscopy studies showed that viral particles were present in the intestinal epithelial cells. These results support the hypothesis that an inappropriate diet was the primary cause of the mucoid enteropathy, and that the concurrent viral infection was more likely an incidental finding and not a significant contributor to the disease process.

Keywords Diarrhea, electron microscopy, mucoid enteropathy, *Oryctolagus cuniculi*, pathology, rabbit

Holştein ırkı bir buzağıda saptanan Arnold-Chiari malformasyonu ve diğer anomaliler

M. HALIGÜR¹, Ö. ÖZMEN¹, A. HALIGÜR², S. HASIRCIOĞLU³, **V. İPEK**¹, M. KALE³

¹*Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur*

²*Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Anatomi Anabilim Dalı, Burdur*

³*Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Viroloji Anabilim Dalı, Burdur*

Özet Bu çalışmada, Holştein ırkı, 1 günlük, dişi bir buzağıda gözlenen Arnold-Chiari malformasyonu, sakrokoksijal agenesis, epiteliogenesis imperfekta ve artrogriposisin anatomik, patolojik ve virolojik bulguları tanımlandı. Uzunlamasına ortadan ikiye ayrılan kafanın anatomik ve makroskobik incelemesinde kranial boşluğunun önden arkaya doğru uzamış ve yukarıdan aşağıya basık bir şekilde olduğu gözlemlendi. Beynin oksipital lobunun, fissura transversaya doğru uzayarak, serebellumun vermis kısmını baskıladığı ve serebellum foramen magnumdan dışarıya fıtklaşmasına sebep olduğu görüldü. Ekstremitelerin distal eklemlerinin mediana doğru büküldüğü gözlemlendi. Sakrumun üzerindeki derinin dorsal bölgede 4x2cm boyutlarında bir alanda şekillenmediği dikkati çekti. Beynin histopatolojik incelemesinde, hiperemi, ödem ve özellikle mezensefalonda daha yaygın olmak üzere fokal gliosis odakları saptandı. Beyin ve beyincikte çok sayıda dejenere ve nekrotik nöronlar görüldü. Bu olguda hem aneden hem de yavrudan alınan kan numunelerinden ELIZA yöntemi ile yapılan inceleme sonucunda Bovine Viral Diarrhea Virus (BVDV) antijeni saptandı. İmmunohistokimyasal olarak BVDV primer antikorunu kullanılarak merkezi sinir sisteminde yapılan incelemede prozensefalon, mezensefalon ve rombensefalon bölgelerinde, dejenere ve nekrotik nöronlar, astrositler ve meninklerde çok sayıda hücrede immunopozitif reaksiyonlar saptandı. Ancak pons, medula oblongata ve talamustaki pozitif immunreaksiyonun merkezi sinir sisteminin diğer bölgelerine oranla daha yoğun olduğu dikkati çekti.

Anahtar kelimeler Buzağı, beyin, BVDV, immunohistokimya, anatomi, patoloji, viroloji, anomali

Arnold-Chiari malformation and other anomalies in newborn Holstein calf

Abstract In this study, one day old, female Holstein calf with Arnold Chiari malformation, sakrokoksijal agenesis, epiteliogenesis imperfecta, arthrogryposis was described by anatomical, pathological and virological findings. Anatomical and macroscopical examination of the skull that longitudinally divided into two pieces, cranial cavity was elongated at the front to back and flattening from top to bottom was found. Occipital lobes of the brain were extended to the fissure transversa, suppressed the cerebellar vermis and caused to herniation of cerebellum from the foramen magnum were seen. Medial curving was observed at the distal joints of the limbs. The skin was not occurred in an area of 4x2 cm in size at the dorsal area of the sacrum. At the histopathological examination of the brain, hyperemia, edema, and focal gliosis

foci that especially more commonly in mesencephalon were detected. Many degenerative and necrotic neurons were seen in brain and cerebellum. In this case, blood samples taken from both mother and calf, Bovine Viral Diarrhea Virus (BVDV) antigen were detected by ELISA method. Immunohistochemical examination by using primary antibody of BVDV in the prosencephalon, mesencephalon and rhombencephalon regions of central nervous system, numerous immunopositive reactions in the degenerate and necrotic neurons, astrocytes and meningeal cells were observed. However, intensity of positive immunoreactions was more prominent in pons, medula oblongata, and thalamus, compared to other regions of the central nervous system.

Keywords Calves, brain, bovine viral diarrhea virus, immunohistochemistry, anatomy, pathology, virology, anomaly

Koyun ve keçi pnömonilerinde serum amiloid-a, serum amiloid-p, c-reaktif protein, tümör nekrosis faktör-alfa, tümör nekrosis faktör-alfa reseptör aktivitelerinin immunohistokimyasal olarak araştırılması*

M. HALIGÜR, Ö. ÖZMEN

Mehmet Akif Ersoy Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı, Burdur

Özet Küçük ruminantlarda pnömonilerin önemli ekonomik kayıplara neden olduğu bilinmektedir. Bu hayvan türünde bakım ve besleme faktörleri pnömonilerin insidansını arttırmaktadır. Son yıllardaki çalışmalarda yangı reaksiyonları hakkında akut faz proteinler ve sitokinlerin serum düzeyleri önemli bilgiler sağlamaktadır. Bu çalışmada akut faz proteinlerin ve bazı sitokinlerin sekresyonları ile yangının şiddeti arasında herhangi bir korelasyonun bulunup bulunmadığı immunohistokimyasal yöntem ile değerlendirilmiştir. Bu çalışmada 15 adet koyun ve 15 adet keçinin pnömonili akciğerleri (5 hafif, 5 orta şiddete, 5 şiddetli derecede etkilenmiş) histopatolojik ve immunohistokimyasal olarak incelendi ve sonuçları değerlendirildi. Bunlara ilaveten 10 sağlıklı akciğer (5 koyun, 5 keçi) kontrol olarak kullanıldı. Akut faz proteinlerden Serum amyloid A (SAA), serum amiloid P (SAP), C- reaktif protein (CRP) ve sitokinlerden tümör nekrosis faktör- α (TNF- α) ile tümör nekrosis faktör- α reseptör (TNF- α R) aktiviteleri incelendi ve bunların pnömoniler ile ilişkileri değerlendirildi. Hafif şiddetteki pnömonili hayvanların incelenen tüm akut faz proteinlerinde immunopozitif çok sayıda hücre saptandı. Orta şiddetteki pnömonili olgularda hücrelerde diğer akut faz proteinler ve sitokinlerde artış görülürken, tümör nekrosis faktör- α (TNF- α) gösteren hücrelerde çok az bir azalma dikkati çekti. Şiddetli etkilenmiş hayvanlarda ise C-reaktif protein ve serum amiloid A aktivitelerinde azalma mevcuttu. Tümör nekrosis faktör- α (TNF- α), tümör nekrosis faktör- α reseptörü (TNFR- α) ve serum amiloid P varlığında artış görüldü. Bu çalışma akut faz proteinlerin pnömonik akciğerler tarafından üretildiğini ve pnömonin şiddetini belirlemek için önemli belirteçler olduğunu ortaya koydu.

Anahtar kelimeler C- reaktif protein, immunohistokimya, pnömoni, serum amyloid A, serum amiloid P, tümör nekrosis faktör- α , tümör nekrosis faktör- α reseptör

*Bu çalışma Mehmet Akif Ersoy Üniversitesi Bilimsel Araştırma Projeleri Yönetim Birimi tarafından desteklenmiştir (Proje No: 0039-NAP-08)

Immunohistochemical detection of serum amyloid-a, serum amyloid-p, c-reactive protein, tumor necrosis factor- α and tumor necrosis factor- α receptor activities in sheep and goat pneumonias*

Abstract It is known that pneumonias can cause important economic losses in small ruminants. Management factors increase pneumonia incidence in this species. In recent studies, acute phase proteins and serum levels of cytokines have provided important information about inflammatory reactions. In this study, the origin of acute

phase proteins and some cytokines and any correlation between their severity of inflammation and secretion was evaluated by immunohistochemical methods. Pneumonic lungs of 15 sheep and 15 goats (5 slight, 5 mild, and 5 severely affected) were examined histopathologically and immunohistochemically and results were evaluated. In addition 10 healthy lungs (5 sheep and 5 goats) were examined as controls. Serum amyloid A (SAA), serum amyloid P (SAP), C- reactive protein (CRP) from acute phase proteins and cytokine tumor necrosis factor- α (TNF- α) and tumor necrosis factor- α receptor (TNF- α R) activities were examined and their interaction with pneumonias evaluated. Immunopositive cell numbers increased in slightly affected animals in all of the examined acute phase proteins. In the moderate form of pneumonia there was a very slight decrease in the number of tumor necrosis factor- α expressed cells, while the others were increased. In severely affected animals there was a decrease in c-reactive protein and serum amyloid-A activities, an increase in tumor necrosis factor- α , tumor necrosis factor- α receptor and serum amyloid-P expression. This study demonstrated that acute phase proteins are produced in pneumonic lungs and are important markers for detecting the severity of pneumonias.

Keywords C-reactive protein, immunohistochemistry, pneumonia, serum amyloid-A, serum amyloid-P, tumor necrosis factor- α , TNF- α receptor

*This study was supported by the Mehmet Akif Ersoy University, Scientific Project Commission (Project Number: 0039-NAP-08)

Sığır tüberkülozunun anti-mpt64 antiserumu kullanılarak immunohistokimyasal teşhisi

H.N. ÇELEN, Z. ARSLAN

Pendik Veteriner Kontrol ve Araştırma Enstitüsü, Patoloji Laboratuvarı, İstanbul

Özet Bu çalışmada sığır Tüberkülozunun anti-MPT64 antiserumu kullanılarak immunohistokimyasal teşhisi amaçlandı. Klinik ve makroskopik olarak Tüberküloz şüpheli 47 akciğer ve lenf düğümünden formolde fikse edilerek hazırlanan parafin kesitler immunoperoksidaz tekniği ile boyandı. *Mycobacterium tuberculosis* complex spesifik antijeni, MPT64 , epiteloid hücreler, dev hücreler, intersitisyumda tespit edildi. *M.tuberculosis* enfeksiyonlarının rutin spesifik ve erken teşhisinde anti-MPT64 antiserumu ile immunohistokimyasal tekniğin patoloji laboratuvarları için kullanımı hızlı, hassas ve validasyona uyumlu olduğu sonucuna varıldı.

Anahtar kelimeler Anti-MPT64 antiserumu, immunohistokimya, *Mycobacterium tuberculosis* complex specific antigen

Immunohistochemical diagnosis of bovine tuberculosis using anti-mpt64 antibody

Abstract The aim of the study was immunohistochemical diagnosis of bovine tuberculosis using anti-MPT64 antibody. Formalin fixed paraffin sections prepared from 47 bovine tuberculosis suspected lung and lymph nodes samples were stained with immunoperoxidase technique. *Mycobacterium tuberculosis* complex specific antigen, MPT64, were detected in epiteloid cells, giant cells and intersitium. Immunohistochemical techniques using anti-MPT64ab were evaluated as rapid, sensitive and appropriate for validation process in the early and specific diagnosis of bovine tuberculosis infections for the routine diagnosis of the diseases in pathology laboratories.

Keywords Anti-MPT64 antibody, immunohistochemistry, *Mycobacterium tuberculosis* complex specific antigen

Bir buzağıda konjenital koroid pleksus papilloma olgusu

K.A. TERİM KAPAKİN

Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Bu vaka ile yeni doğan bir buzağıda ratladığımız konjenital koroid pleksus papilloma olgusu histopatolojik ve immunohistokimyasal olarak tanımlanmıştır. Makroskopik olarak os parietaleden dışarı doğru taşkınlik gösteren kitle karnabahar görünümünde olup 6,2x5x7,3 cm büyüklüğünde, pembemsi renkte ve yer yer de kanamalıydı. Histopatolojik olarak iyi diferensiyel papillar yapılar veya ağaç şeklinde dallanmış fibrövasküler bir stromayla çevrili küboid veya kolumnar epitel hücreleri gözlemlendi. Eozinofilik sitoplazmalı tümör hücrelerinde mitoz rastlanmadı. Hücreler vimentin, epitelial membran antigen (EMA) ile pozitiflik gösterirken GFAP ile boyanmadı. Koroid pleksus tümörlerinin hayvanlarda nadir gözlenmesi özellikle de yeni doğan bir hayvanda konjenital olarak koroid pleksus papilloma (CPP) olgusuna ilk kez rastlanması açısından önemli görülen bu olgu değerlendirmeye alınmıştır.

Anahtar kelimeler Buzağı, immunohistokimya, konjenital, koroid pleksus papilloma

Congenital choroid plexus papilloma in a calf

Abstract In this study, report provides the histopathological and immunohistochemical definition of a congenital choroid plexus papilloma, in a newborn calf. Macroscopically, the mass protruded from the parietal bone and resembled the shape of a cauliflower. The tumor was 6.2x5x7.3 cm in size, had a pinkish colour and contained patches of haemorrhage. Histopathological examination revealed the presence of well-differentiated papillary structures or cuboidal and columnar epithelial cells enclosed by a fibrovascular stroma exhibiting branching arboriform pattern. Tumor cells with an eosinophilic cytoplasm did not display mitosis. The cells gave positive results for vimentin and the epithelial membrane antigen (EMA), but did not stain with GFAP. This case, which bears significance in that choroid plexus tumors are observed in animals rarely and in view of a congenital choroid plexus papilloma, (CPP) case being observed in a newborn animal for the first time, was evaluated.

Keywords Calf, choroid plexus papilloma, congenital, immunohistochemistry

Bir köpekte mezotelioma olgusu

K.A. TERİM KAPAKİN¹, R. HAZIROĞLU², N. GÜRSAN³, G. YÜCEL²

¹*Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum*

²*Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara*

³*Atatürk Üniversitesi, Tıp Fakültesi, Patoloji Anabilim Dalı, Erzurum*

Özet Bu çalışmada 4 yaşlı Rotweiler ırkı, dişi bir köpekte gözlenen mezotelioma olgusu histopatolojik ve immunohistokimyasal olarak tanımlanmıştır. Makroskopik olarak mide ve bağırsak üzerinde diffuz dağılım gösteren yumuşak kıvamda, gri sarımsak renkte, büyüklükleri 2 mm. ile 3 cm. arasında değişen kitleler gözlemlendi. Histopatolojik olarak mide ve bağırsak serozasında yuvarlak, yer yer poligonol, az sitoplazmalı, hiperkromatik çekirdekli, anaplastik özelliklere sahip kan damarlarından zengin, fibröz bir stroma üzerine oturmuş solid kümeler halinde az sayıda mitotik aktivite gösteren pleomorfik mezotel hücreleri gözlemlendi. Tümör hücreleri sitokeratin ve vimentin ile pozitiflik gösterirken, epitelial membran antigen (EMA) ile boyanmadı.

Anahtar kelimeler İmmunohistokimya, köpek, mezotelioma

Mesothelioma in a dog

Abstract This study report defines a mesothelioma case, diagnosed in a four-year-old female dog of the Rottweiler breed, both histopathologically and immunohistochemically. The stomach and intestines of a four-year-old female Rottweiler dog, submitted by a private veterinary clinic to the Department of Pathology of Ankara University Faculty of Veterinary Medicine for examination, constituted the material of the study. Macroscopically, greyish yellow coloured masses, ranging from 2 mm to 3 cm in diameter and of soft consistency, were observed to be distributed diffusely in the stomach and intestines. Microscopically, the presence of a few number of pleomorphic mesothelial cells, observed as solid clusters grounded on a fibrous stroma, which displayed anaplastic features, were rich in blood vessels, and were either round or from time to time polygonal in shape, and were composed of a limited amount of cytoplasm and a hyperchromatic nucleus in addition to displaying mitotic activity, was observed. Furthermore, it was determined that the blood vessels within the serosa were enlarged and filled with erythrocytes. The tumor cells gave positive results for vimentin and cytokeratin. but did not stain with the epithelial membrane antigen (EMA).

Keywords Dog, immunohistochemistry, mesothelioma

Bıldırcınlarda deneysel olarak oluşturulan *Ornithobacterium rhinotracheale* enfeksiyonunda HSP 70 proteininin varlığı ve apoptosisle ilişkisi*

K.A. TERİM KAPAKIN¹, M. ŞAHİN², F. BÜYÜK², N. GÜRSAN³, M. ALBAYRAK³

¹*Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum*

²*Kafkas Üniversitesi, Veteriner Fakültesi, Mikrobiyoloji Anabilim Dalı, Kars*

³*Atatürk Üniversitesi, Tıp Fakültesi, Patoloji Anabilim Dalı, Erzurum*

Özet Solunum sistemi hastalıkları, kanatlı endüstrisinde çok sık karşılaşılan enfeksiyonlardan biri olup, kanatlı yetiştiriciliğinde önemli bir sorun olmaya devam etmektedir. *Ornithobacterium rhinotracheale* (ORT) tavuk ve hindilerde solunum sistemi bozukluklarına neden olan patojen bir mikroorganizmadır. Heat shock proteinleri (HSPs) değişik stres faktörlerine karşı bütün hücre türlerinde sentezlenir. Bu çalışma ile bıldırcınlarda deneysel olarak oluşturulacak olan ORT enfeksiyonunun immunohistokimyasal (HSP 70 proteininin varlığının tesbiti) ve mikrobiyolojik (ELISA) yöntemler kullanarak meydana getireceği klinik ve histopatolojik bulguların şiddeti karşılaştırmalı olarak değerlendirilerek ORT enfeksiyonunda HSP 70 proteininin varlığının apoptosis ile ilişkisi gösterildi. Bu çalışmada 60 adet 10 haftalık erkek bıldırcın kullanıldı. Her biri 30'ar hayvandan oluşacak şekilde deney ve kontrol grubuna ayrıldı. Deney grubuna 1 ml ORT 3263/ 91 suşu (serotip A) mililitre başına $3,8 \times 10^8$ CFU içeren inokulum aerosol olarak verildi. İnokülasyonu takiben 10 gün., 3. ve 6. haftalarda her bir gruptan 10 adet bıldırcının nekropsileri yapıldı. Klinik olarak hayvanlarda aksırık, burun akıntısı ve solunum güçlüğü gözlemlendi. Nekropsisi yapılan hayvanlarda abdominal hava keselerinde kalınlaşma ve yoğurt benzeri beyaz köpüklü bir eksudat ile akciğerlerde pnömoni tablosu gözlemlendi. Mikroskopik olarak başta akciğer, trakea, sinuslar, hava keseleri ve larinks olmak üzere böbrek, karaciğer, kalp ve beyinde değişen şiddette dejeneratif ve yangısal değişiklikler gözlemlendi. Akciğerde sekonder ve tersiyer bronş epitellerinde, trakea, hava keselerinde epitel hücrelerinde, böbrek tubul epitellerinde, karaciğerde hepatositlerde, kalp kası hücrelerinde, beyinde nöron ve astrositlerde HSP 70 proteini tesbit edildi. Ancak HSP 70 proteininin varlığı 10. günde 3. ve 6. haftaya göre daha şiddetliydi. Tüm bu gruplarda HSP 70 proteiniyle ters orantılı olarak apoptotik hücrelerin varlığı tesbit edildi.

Anahtar kelimeler Apoptosis, bıldırcın, ELISA, HSP 70, *Ornithobacterium rhinotracheale*

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The presence of the HSP 70 protein and its association with apoptosis in experimentally-induced infections with *Ornithobacterium rhinotracheale* in quails*

Abstract Respiratory diseases are encountered very frequently in the poultry industry and remain a major animal health problem for poultry breeding. *Ornithobacterium rhinotracheale* (ORT) is a pathogenic microorganism, which causes disorders of the respiratory system in chickens and turkeys. Heat shock proteins (HSPs) are synthesized against different stress factors in all types of cells. The present study was aimed at the comparative evaluation of the severity of both primary and stress-induced clinical and histopathological findings resulting from experimental infection with ORT in quails, using immunohistochemical (the determination of the presence of the HSP 70 protein) and microbiological (ELISA) methods and the demonstration of the association of the presence of HSP 70 proteins, in ORT infection, with apoptosis. Ninety 10-week-old male quails constituted the material of the study. The animals were allocated randomly to two experimental groups and one control group, each comprising 30 quails. The animals included in the two experimental groups were experimentally infected with 1 ml of an inoculum, containing the ORT 3263/91 strain (serotype A) 3.8×10^8 CFU per millilitre, by the aerosol route. Starting from the day of experimental infection, Group 2 was exposed to stress, as the litter in the cages where the animals were kept was not cleaned. Ten quails from each group were killed for necropsy on the 10th day and at the 3rd and 6th weeks post-inoculation. Clinically, the animals exhibited symptoms including sneezing, nasal discharge and respiratory distress. At necropsy, thickening of the abdominal air sacs and the presence of a white coloured, yoghurt-like foamy exudate as well as pneumonia was observed in both of the experimental groups. Microscopic examination degenerative and inflammatory changes of varying severity were observed primarily in the lungs, trachea, sinuses, air sacs and larynx, as well as in the liver and brain. The presence of HSP 70 proteins was determined in the secondary and tertiary bronchial epithelium of the lungs, epithelium lining the trachea and air sacs, tubular epithelium of the kidneys, hepatocytes of the liver and neurons of the brain. However, the HSP 70 protein was present at much higher levels on the 10th day of infection, compared to the 3rd and 6th weeks post-infection. In all groups, the presence of HSP 70 proteins was found to be inversely correlated with the presence of apoptotic cells. The comparative evaluation of the groups revealed that the lesions were more severe in the animals, which were exposed to both ORT and stress.

Keywords Apoptosis, ELISA, HSP 70, *Ornithobacterium rhinotracheale*, quails

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Non-alkolik yağlı karaciğer (NAFLD) olgularının histopatolojik incelenmesi

N. GÜRSAN¹, F. TUNCELDALOĞLU¹, R. DEMİRTAŞ¹, **K.A. TERİM KAPAKİN²**, A. DUMAN¹,
B. GÜNDOĞDU¹

¹Atatürk Üniversitesi, Tıp Fakültesi, Patoloji Anabilim Dalı, Erzurum

²Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Non-alkolik yağlı karaciğer hastalığı (NAFLD) batıda endüstrileşmiş ülkelerde hızla prevalansı artan bir hastalıktır. Tanı hastada alkol tüketimi olmadan yağlanma ve hepatitis olması ile konur. Önemli morbidite ve progresyon riski vardır. Noninvaziv metotlar tanıda güvenilir değildir. Günümüzde tanıda altın standart histopatolojik incelemedir. Histopatolojik bulgular hepatosellüler balonlaşma (Mallory cisimciği olabilir veya olmayabilir) nekroenflamasyon ve perisinusoidal fibrozistir. Materyalimizi Atatürk üniversitesi Tıp Fakültesi Patoloji ABD' da 2004-2009 yılları arasında NAFLD tanısı konmuş 26 olgu oluşturdu. Olgular 2-80 yaşları arasında olup yaş ortalaması 37.9 idi. Olguların % 69'u E % 31'i K idi. Histopatolojik açıdan bir olguda lipogranulom izlendi. Nekroenflamasyon (grade) olguların % 23'ü grade I, %42'sinde grade II ve % 35'i de grade III idi. Fibrozis (stage) olguların % 54'ünde stage I, % 38'inde stage II ve % 8'inde stage III idi. Bir olguda beraber kronik hepatit B eşlik ediyordu. Sonuç olarak olgularımız genellikle yüksek grade ve düşük stage de idi. Bu da genellikle olgulara erken tanı konulmadığı fakat ileri stage varmadan yakalama şansı olduğu anlamına gelmektedir.

Anahtar kelimeler Histopatoloji, non-alkolik yağlı karaciğer

Histopathological investigations in non-alcoholic fatty liver disease (NAFLD)

Abstract Non-alcoholic fatty liver disease (NAFLD) is a disease of quickly increasing prevalence in industrialized west countries. The diagnosis is made by fatty changes and hepatitis in patients without alcohol intake. There is significant risk of morbidity and progression. Noninvasive diagnostic methods are not reliable. Currently the gold standard for diagnosis is histopathologic examination. Histopathologic findings are hepatocellular ballooning (Mallory bodies may or may not be found), necroinflammation and perisinusoidal fibrosis. We evaluated 26 patients diagnosed NAFLD in our department (Pathology Department of Ataturk University, Erzurum) between 2004-2009. The mean age was 37.9 (2-80). Among the cases 69% were male and 31% were female. Microscopically only one case had lipogranuloma. The percentage of necroinflammation grade; 23% of patients grade 1, 42% of patients grade 2, 35 of patients were grade 3, respectively. Fibrosis (stage), 54% of patients stage 1, 38% of patients stage 2, 8 % of patients were stage 3, respectively. In one patient had chronic hepatitis B. As a result our patients were generally in high grade and low stage. That means, our patients can not be diagnosed early, but have a chance for early diagnosis, before high stage.

Keywords Histopathology, non-alcoholic fatty liver

Tavuklarda saptanan tüberküloz olgularında histopatolojik incelemeler

K.A. TERİM KAPAKİN, Y.S. SAĞLAM, S. ALTUN

Atatürk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Erzurum

Özet Çalışmanın materyalini Erzurum hayvan pazarından öğrenci uygulaması için temin edilen rastgele seçilmiş 22 tavuk oluşturdu. Yapılan nekropside bu hayvanlardan sekizinde karaciğer, dalak, altısında karaciğer, dalak, böbrek ve akciğer yüzeyinde değişik büyüklükte ve sayıda, gri-sarımtırak renkte, kenarlarından sınırlı nodüler yapılar dikkati çekti. Histopatolojik incelemede bu lezyonların tüberküloz nodüllerinden ibaret olduğu gözlemlendi. Ayrıca kesitlere yapılan Ziehl- Neelsen boyası sonucunda bol miktarda tüberküloz basilleri dikkati çekti. Bu bulgular ışığında 22 adet tavuktan sekizinde kanatlı tüberkülozu tanısı konmuş olup, salgınlar halinde seyretmesi ve zoonoz olması nedeniyle değerlendirmeye alınmıştır.

Anahtar kelimeler Histopatoloji, tavuk, tüberküloz

Histopathologic examinations of the tuberculosis cases detected in chickens

Abstract The study material consisted of 22 randomly selected chickens bought from Erzurum animal market place for student practice. There were formations of grey-yellowish nodules with distinct border lines, in different numbers and diameters on the surfaces of spleen, liver, kidney and lung. Histopathologic examinations of the sections confirmed lesions being the nodules of tuberculosis. Indeed, a large number of tuberculosis bacilli were observed on the sections stained by Ziehl-Neelsen. In the light of these findings, in eight of 22 chickens have been diagnosed with avian tuberculosis and were evaluated due to epidemic and zoonosis.

Keywords Chickens, histopathology, tuberculosis

Bir köpekte karşılaşılan ekstragenital canine transmissible venereal tümörde patomorfolojik ve immunhistokimyasal bulgular

A.S. COŞKAN¹, M.E. ALÇIĞIR², S. ATALAY VURAL¹

¹Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

²Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

Özet Canine transmissible venereal tumor (CTVT - transmissible venereal sarcoma veya Sticker's sarcoma) köpeklerin yanı sıra tilki, çakal, kurt gibi diğer canidelerde de zaman zaman gözlenen oldukça bulaşıcı yuvarlak hücreli tümördür. Hem dişiye hem erkeğin genital organlarına çiftleşme yolu ile bulaşır. Tümör ilk olarak genital organlara yayılmasına rağmen, burun ya da ağız boşluğu, deri, lenf yumruları, konjunktiva mukozası ve dudaklara kontakt metatazi nadirdir. Histopatolojik olarak; büyük, oval ve yuvarlak şekilli, hiperkromatik çekirdekler ile genellikle daha az yoğunlukta soluk renkli sitoplazmalara sahip neoplastik hücreler solid veya kordon şeklinde alanlar oluşturuyordu. Immunhistokimyasal olarak; neoplastik hücrelerde anti p53 protein, anti vimentin ve antichymotrypsin-1'ne karşı pozitif reaksiyon tespit edildi. Bu olguda 7 yaşlı bir dişi, alman çoban köpeğin nasal sinuslarında CTVT olgusu patomorfolojik ve immunhistokimyasal tanımlanması amaçlanmıştır.

Anahtar kelimeler Canine transmissible venereal tumour, nazal sinus, patomorfoloji, immunohistokimya

Pathomorphological and immunohistochemical findings of extragenital canine transmissible venereal tumor in a dog

Abstract Canine transmissible venereal tumor (CTVT - transmissible venereal sarcoma or Sticker's sarcoma) is highly contagious round cell tumor dogs that is occasionally observed in other members of canine family such as foxes, jackals and wolves. It is transmitted during coitus, to the genitals from either the female or male. Although the tumor spread primarily genital mucosa, it can be seen rare to contact metastasis in the nasal or oral cavities and mucosa, skin, lymph nodes, conjunctival mucosa and lips. Histopathologically, ovoid or round shaped neoplastic cells, which had prominently clear, large and round to ovoid, hyperchromatic nuclei and usually less dense distinct cytoplasm, constitute in solid or cords. Immunohistochemically, positive reaction in neoplastic cells were detected by anti p53 protein, anti vimentin and antichymotrypsin-1. In the case, it was purposed that extragenital CTVT was described pathomorphologically and immunohistochemically in unilateral nasal sinus of in a 7-years-old, female, German-shepherd dog.

Keywords Canine transmissible venereal tumour, nasal sinus, pathomorphology, immunohistochemistry

Safra kesesinin kistik müsinöz hiperplazisi

M.E. ALÇIĞIR¹, İ.M. POLAT², **A.S. COŞKAN**³, S. ATALAY VURAL³, M.R. VURAL⁴

¹Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

²Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Doğum ve Jinekoloji Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

⁴Ankara Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Ankara

Özet Bu olguda, 5 yaşlı, dişi, Alman çoban köpeğinin safra kesesindeki kistik müsinöz hiperplazi patomorfolojik olarak tanımlandı. Makroskopik olarak safra kesesinin mukozası kalınlaşmıştı ve çoğu alanlarda yüzeyden taşkın, çapları 0.1-0.3 cm arasında değişen kistik yapıdaki papiller uzantılar mevcuttu. Ayrıca sol ovariumun kranialinde 16 cm çapında ve kesit yüzünden seröz bir sıvı gelen parovarian kist saptandı. Dokular rutin takibe alınarak Hematoksilen-eosin (H&E), Periodic Acid Schiff (PAS) ile Mayer'in müskarmin boyalarıyla boyandı. Histopatolojik mukozada genelde tek sıralı kübik şekilli, safra kesesi epitel hücreleriyle döşeli ve değişik genişlikteki lümeninde müsinöz sekret içeren kistlerle karşılaşıldı. Bu tip olgulara ender rastlanması, hayvanın ileri yaşta olması ve olgunun özellikle çok belirgin büyüklüklerde olan parovarian kistiyle birlikte seyretmesi bakımından bu konudaki çalışmalara anlamlı katkı sağlayacağı düşünülmüştür.

Anahtar kelimeler Köpek, safra kesesi, kistik müsinöz hiperplazi, patomorfoloji

Cystic mucinous hyperplasia of gall bladder

Abstract In the case, cystic mucinous hyperplasia was described in 5 years old, female, German Shepherd dog. Macroscopically, gall bladder was thickened. There were 0.1-0.3 cm cystic papillary structures which excessive in many areas of gall bladder. In addition, parovarian cyst which 16 cm in diameter was detected in cranial part of left ovarii. There was serous fluid in cut section. Tissues were processed routinely and stained with haematoxyline-eosin (HE), Periodic Acid Schiff (PAS) and Mayer's mucicarmine. It was encountered to cysts which include mucinous secret and lined with cubic epithelium of gall bladder. It was thought to followed studies will be meaningfully supports with regard to being rarely, seeing elderly and accompanying with paraovarian cyst with significant size.

Keywords Dog, gall bladder, cystic mucinous hyperplasia, pathomorphology

Bir köpekte rete ovarii adenoma ve vaginal fibromanın klinikopatolojik değerlendirilmesi

M.E. ALÇIĞIR¹, İ.M. POLAT², A.S. COŞKAN³, Ş. KÜPLÜLÜ⁴, M.R. VURAL⁴, S. ATALAY VURAL³, Z. AKINTUĞ²

¹Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

²Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Doğum ve Jinekoloji Anabilim Dalı, Ankara

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

⁴Ankara Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Ankara

Özet Olguda 14 yaşlı melez bir köpekte ovaryohistektomi sırasında tesadüfen rastlanan Rete Ovarii (RO) adenomu ile vagina fibromunun klinik ve patomorfolojik bulgularının değerlendirilmesi amaçlanmıştır. Klinik olarak vulvadan dışarı taşan 11 g ağırlığında, 3x2x5 cm boyutlarında, dışarı taşan bir kitle, akıntı ve sürekli olarak genital bölgeyi yalama isteği gözlemlendi. Vulvoplasti yanı sıra hayvan sahibinin isteği üzerine ovaryohistektomi operasyonu yapılan köpeğin sağ ovaryumu hilusunda 0.3 cm çapında sarımsı-beyaz renkte bir odak ile aynı ovaryumun kranialine yakın 0.3 cm çapında parovarian kist saptandı. Mikroskopik olarak hilusta saptanan odağın etrafı sınırlı uniform tek katlı, kübik epitel hücreleriyle döşeli tubullerden oluştuğu dikkati çekti. Vajinal kitle ise yine uniform yapıda değişik yönlere doğru seyir gösteren bağ doku hücrelerinden oluşan fibrom yapısına sahipti.

Anahtar kelimeler Klinikopatoloji, rete ovarii adenom, vaginal fibroma, köpek

Clinicopathological evaluation of rete ovarii adenoma and vaginal fibroma in a bitch

Abstract In the case, It was aimed that of clinical and pathomorphological findings of Rete Ovarii (RO) adenoma and vagina fibroma were evaluated incidentally in 14 years, mixed breed dog. Clinically, it was seen on excessive mass which weighed of 11 g and diametered in 3x2x5 cm and licking to genital region. Vulvoplasti and ovariohysterectomy onto willness of owner's dog were carried out. A yellowish-grey mass which had 0.3 cm in diameter in hilus of right ovarii and parovarian cyts which had 0.3 diameter were determined in same ovarii. Microscopically, many tubulus lined with uniformed cuboid epitheliums were detected to be well defined foci at hilus. Vajinal mass had fibrom composed of uniformed connective tissue cells which arranged into different ways.

Keywords Clinicopathology, rete ovarii adenoma, vaginal fibroma, bitch

Bir köpekte metastazlı osteosarkoma olgusunda patomorfolojik ve sitopatolojik bulgular

M.E. ALÇIĞIR¹, N. YUMUŞAK², L. UĞURLU³, M.A. CANDI⁴, O. KUTSAL⁴

¹Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, Patoloji Anabilim Dalı, Ankara

²Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

³Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü, İç Hastalıkları Anabilim Dalı, Ankara

⁴Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Osteosarkomalar periost ve paraosteal bölgeden köken alan, daha çok büyük çüsseli köpeklerin uzun kemiklerinde görülen tümörlerdir. Köpeklerde görülen osteosarkomaların %80'i, kedilerde ise %70'i malign özelliindedir. Köpeklerde sıklıkla karşılaşılan yaş ortalaması 7.5-8, diğer türlerde ise 2 yaşın altındadır. Köpeklerde en çok Saint Bernard, Great Dane, Boxer gibi büyük çüsseli ırklarda ekstremitelere ait uzun kemikler, kafatası ve diğer yassı kemiklerden ve vertebralardan gelişirler. Bu çalışmada 3 yaşlı, erkek bir Alman çoban köpeğinde görülen akciğer ve böbrek metastazlı osteosarkom olgusu tanımlanmıştır. Ankara Üniversitesi Veteriner Fakültesi İç Hastalıkları Anabilim Dalı'na sağ ön bacakta şişlik ve anoreksi şikayetleriyle getirilen hayvanın genel durumunun kötüleşmesi üzerine hayvan sahibinin isteği ile ötenazisi yapıldı ve inceleme için Patoloji Anabilim Dalı'na gönderildi. Makroskobik değerlendirmelerin ardından, akciğer ve böbrek başta olmak üzere tüm organlar ve dokudan alınan örnekler %10'luk formaldehitte fikse edilerek rutin doku takibine alındı. Dokular parafinde bloklandı ve bloklardan 5 µ alınan kesitler hematoksilin-eosin (H&E) ve Alizerin Red ile boyandı. Sitopatolojik incelemeler için tuşe tekniği kullanılarak hazırlanan preparatlar hava akımında kurutuldu ve May Grünwald-Giemsa ile boyandı. Tüm bulgular ışık mikroskopta değerlendirildi. Makroskobik olarak kitle sağ ön ekstremitede kubiti ve humeri eklemleri arasında şekillenmiş 25x27x18 cm boyutlarında, elastik kıvamlı, multilobuler görünüşteydi. Sağ böbreğin anteriorunda 3x3x2 cm boyutlarında ve akciğerde sağ kraniyal ile diyaframatik loblarda 0.5 cm ile 1.5 cm arasında değişen çaplarında benzer özellikler taşıyan kitlelere rastlandı. Histopatolojik ve sitopatolojik olarak anaplazik özellikler gösteren, oval-yuvarlak şekilli osteoblastlar ve osteosit ile dev hücreleri görüldü. Histopatolojik incelemelerde ayrıca bazı alanlarda kırık ve kemik dokusuna ilişkin sahalar fark edildi ve kemik dokusuna ait sahalar Alizerin Red ile boyandı. Köpeklerde oldukça yaygın olarak rastlanan bu tip tümörlerde gerek yaşın genç olması gerekse akciğer ve böbreklere metastaz yapması bakımından patomorfolojik ve sitopatolojik bulgularıyla bu alanda yapılan çalışmalara katkı sağlayacağı düşünülmüştür.

Anahtar kelimeler Osteosarkom, metastaz, akciğer, böbrek, köpek

Pathomorphologic and cytopathologic findings of metastatic osteosarcoma in a dog

Abstract Osteosarcoma is originated from periost and paraosteal region and frequently seen in long extremities of giant breed dogs. Osteosarcoma show malignancy in accounted for 80% in dogs and 70%. It is frequently encountered on average of 7.5 years in dogs and fewer than 2 years old in other species. It is developed mostly in long extremities, skull, flattened bones and vertebrae of giant breed dogs such as Saint Bernard, Great Dane and Boxer. In the study, osteosarcoma metastasized into lungs and kidney in 3 years old and male German Shephard dog. The animal were submitted into Department of Internal Medicine, Faculty of Veterinary Medicine in Ankara University with complaints of swelling in right fore limb and anorexia. It is euthanased onto deterioration of general constitution with request of owners dog and send to Department of Pathology. After macroscopical examination, all tissues, primarily lungs and kidney, were fixed in 10% formaldehyde solution and processed routinely. The tissue samples were embedded in paraffin. Sections were cut at 5 μ from blocks and stained with hematoxylin-eosin, Alizerin Red. For cytopathology, impression cytology technique were used with slides. and the slides were air-dried and stained with May Grönwald-Giemsa. All findings were evaluated in light microscope. Macroscopically, the mass was localized in right fore limb, between articulatio cubiti and humeri. The mass were diametered in 25x27x18 cm and showed firm and multilobullary. The similar masses were diametered in 3x3x2 cm in of anterior right kidney. Additionally, it was seen in right cranial and diaphragmatic lobes of lungs and diametered in varying size from 0.5 cm to 1.5 cm. In hystopathological and cytopathological examination, anaplastic osteoblasts and osteocytes round to oval in shape and giant cells were seen. In addition, chondroid and osteoid tissues were noted in some areas and osteoid areas were stained with Alizerin Red in histopathological examinations. The tumors are widely encountered in dogs. It is thought to supports with pathomorphological and cytopathological findings to maintaining studies because the animal is young age and metastasis on lungs and kidney.

Keywords Osteosarcoma, metastasis, lung, kidney, dog

Bir kedide renal aplazi ve kompenzatorik hipertrofi olgusunda anatomik ve patolojik bulgular

O. EKİM¹, Ç. OTO¹, M.F. BOZKURT², **M.A. CANDI**³

¹Ankara Üniversitesi, Veteriner Fakültesi, Anatomi Anabilim Dalı, Ankara

²Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar

³Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

Özet Bu çalışmada, 2 yaşında, 4,2 kg ağırlığında, erkek tekir bir kedide rastlantısal olarak karşılaşılan sağ böbrekte renal aplazi ile sol böbrekte hipertrofi olguları anatomopatolojik bulgularıyla tanımlanmıştır. Makroskobik incelemede; sol böbreğin median hattın sol tarafında, 1.-4. vertebrae lumbales'lerin, processus transversus'larının iz düşümü hizasında, sağ böbreğin ise median hattın sağında, 2. lumbal vertebra'nın processus transversus'unun ventral'inde yerleştiği görüldü. Dijital kumpas ile yapılan ölçümlerde, sol ve sağ böbreğin craniocaudal uzunluğunun sırasıyla 4,9 cm ve 1,4 cm olduğu, hilus renalis düzeyinde mediolateral çapının sırasıyla 2,6 cm ve 0,4 cm, dorsoventral çapının ise 1,9 cm ve 0,3 cm olduğu belirlendi. Sağ böbreğin grimsi-sarı renkte olup kesit yüzüne bakıldığında cortex'in medullaya göre daha belirgin görüldüğü göze çarparken, sol böbrek sarı renkte, sert kıvamda ve kesit yüzü düz olarak gözlemlendi. Hayvanın diğer organlarında konum ve anatomik yapı itibarı ile herhangi bir anormallik tespit edilmedi. Her iki böbrek, ureter'ler ve vesica urinaria ile birlikte çıkarılarak %10'luk formol'de tespit edildi ve doku örnekleri rutin doku takibine alınarak parafinde bloklandı. Parafin bloklardan alınan kesitler hematoksil-eozin ile boyandı. Histopatolojik olarak aplazik böbrekte yoğun kollagen doku arasında tubulus ve glomerulus taslakları dikkati çekti. Cortex'te çok miktarda damarsal oluşumlar tespit edildi. Söz konusu böbreğe ait ureter çapının, hipertrofik böbreğe göre daha dar ve epitellerinin dejenere olduğu fark edildi. Hipertrofik böbrekte ise çok sayıda tubulus'ta dejeneratif değişiklikler ön plandaydı. İncelenen sahalarda çoğunda, glomerulus'ların mezangiyal hücre hiperplazisi ile genişlediği ve Bowman kapsülünü doldurduğu dikkati çekti. Bu çalışmanın amacı; detaylı anatomik ve patolojik bulgular ışığında, gerek beşeri gerekse veteriner hekimlikte az rastlanan, bu tür unilateral aplazi ve kompenzatorik hipertrofi olgularına katkı sağlamaktır.

Anahtar kelimeler Aplazi, böbrek, hipertrofi, kedi

Anatomical and pathological findings of renal aplasia and compensatory hypertrophy in a cat

Abstract In this study incidentally detected renal aplasia in right kidney and compensatory hypertrophy in left kidney have been defined with the anatomic and pathologic findings in a 2 years old, 4.2 kg weighted male tabby cat. In macroscopic inspection, it was observed that the left kidney was located on the left side of the median line and the ventral part of the transverse processes of the 1st – 4th lumbar

vertebrae, and the right kidney was at the right side of median line, ventral part of the transverse process of the 2nd lumbar vertebra. The measurements taken by digital caliper showed that the craniocaudal lengths of the left and the right kidney were 4.9 cm and 1.4 cm. At the level of renal hilus the mediolateral diameters were 2.6 cm and 0.4 cm, the dorsoventral diameters were 1.9 cm and 0.3 cm, respectively. Left kidney had a yellow color and a firm consistency and also the cut sections were smooth. Besides, right kidney had a grayish-yellow color and the renal cortex had more distinctive structure comparing to the medulla. As of anatomical location and morphology, no abnormality was observed in the other organs of the cat. Both kidneys were exenterated out with the ureters and bladder, and then were fixed in 10% formalin and embedded in paraffin. Tissue sections from paraffin blocks were stained with hematoxyline-eosin. In right kidney, tubular and glomerular primitive structures were recognized histopathologically in between intense collagen tissue. Numerous of vascular formations were found in cortex. The diameter of the ureter of the mentioned kidney was narrower and also the epithelium was found more degenerated as compared to the hypertrophic kidney. In hypertrophic kidney, in many of the tubules, degenerative alterations were observed significantly. In most of the observed microscopical areas, glomeruls were enlarged with mesangial cell hyperplasia and filled completely the Bowman's capsule. In the light of the detailed anatomical and pathological findings, the aim of this study was to make a contribution to such unilateral aplasia and compensatory hypertrophy cases that were encountered rarely in both human and veterinary medicine.

Keywords Aplasia, cat, hypertrophy, kidney

Köpeklerde meme tümörlerinin ince iğne aspirasyon biyopsi tekniği ile değerlendirilmesi

R. HAZIROĞLU¹, **B. YARDIMCI**², S. ASLAN³, Z. YILDIRIM⁴, N. YUMUŞAK¹, H. BECERİKLİSOY⁵, R. AĞAOĞLU³, İ. KÜÇÜKASLAN³

¹Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara

²Ondokuz Mayıs Üniversitesi, Veteriner Fakültesi, Su Ürünleri ve Hastalıkları Anabilim Dalı, Samsun

³Ankara Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Ankara

⁴Bornova Veteriner Kontrol ve Araştırma Enstitüsü, İzmir

⁵Adnan Menderes Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Aydın

Özet Sitopatoloji, insanlarda tümörlerin özellikle erken teşhisi için kullanılan yöntemlerden biri olmasına rağmen, Veteriner Patoloji’de yaygın olarak kullanılan bir yöntem değildir. Bu çalışmanın amacı, köpek meme tümörlerinde (n=31) operasyon öncesi yapılan ince iğne Aspirasyon Biyopsi tekniği ile operasyon sonrası yapılan klasik histopatoloji tekniğini karşılaştırmaktı. Farklı meme loblarındaki kitlelerden alınan 26 aspiratta yapılan incelemede; malign olarak tanımlanan 20 aspiratta çift çekirdekli ya da anormal kromatin yapılı, mitotik figürler içeren ve iğ şekilli atipik hücrelere rastlandı. Malign şüpheli olarak tanımlanan 3 aspiratta yalnızca atipik epitel hücreleri gözlenirken, benign olarak tanımlanan 3 aspiratta ise uniform yapıda bez epitelyum hücreleri belirlendi. Çalışmada histolojik olarak en sık malign mikst tümör ve özellikle tubuler veya papiller adenokarsinoma rastlandı. İki teknik arasında yapılan karşılaştırma da %88,5 oranında uyum gözlemlendi. Sitolojik olarak malign şüpheli olanlar histolojik incelemede malign olarak tanımlandı. Çalışmanın sonucunda, meme tümörlerini operasyon öncesi sitopatolojik incelemenin, erken malignite teşhisinde ve uygulanacak tedavi protokolünün belirlenmesinde yardımcı olabileceği kanısına varıldı.

Anahtar kelimeler Köpek, meme tümörü, sitopatoloji, histopatoloji

Evaluation of canine mammary tumors with fine needle aspiration biopsy technique

Abstract Although cytopathology is widely used for early diagnosis of human tumours, it is not commonly performed in veterinary medicine. The aim of the present study was to compare cytological examination after pre-operative fine needle aspiration biopsies from canine mammary tumours (n=31) with classical histopathology performed after surgery. Among the 26 available aspirates from various and heterogeneous mammary gland tumour masses, 20 exhibited atypical epithelial cells coupled to nucleus and/or chromatin anomalies, mitotic figures or spindle shape cells and were classified as malignant, 3 only showed modified epithelial cells and were considered as malignant suspected and 3 aspirates were considered as benign because epithelial cells appeared

uniform. The most frequent histological types of tumours were malignant mixed tumours and adenocarcinomas, mainly tubular and papillary adenocarcinomas. The agreement score between the 2 techniques was 88.5%, the cytologically suspected malignant tumours being malignant by histology. These results suggest that pre-operative cytopathological examination of mammary masses may be helpful in the early malignancy diagnosis and in the therapeutic decision.

Keywords Dog, mammary tumour, cytopathology, histopathology

Listerial meningoensefalitisli koyunlarda matris metalloproteinaz immunoreaktivitesi

F. İLHAN¹, Y. ULUSOY², M. HALIGÜR³

¹Yüzüncü Yıl Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Van

²Merkez Veteriner Kontrol ve Araştırma Enstitüsü, Patoloji Bölümü, Ankara

³Mehmet Akif Ersoy Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Burdur

Özet Matris metalloproteinazlar çeşitli sinir sistemi hastalıklarının patogeneğinde önemli role sahiptir. Bu çalışmada, listerial meningoensefalitin klinik ve karakteristik histopatolojik bulgularını gösteren 22 koyun beyinde, *L. monocytogenes* antijenlerinin varlığı ile MMP-9 ve MMP-7 aktiviteleri immunohistokimyasal olarak araştırıldı. Ayrıca 22 örneğin 9'u mikrobiyolojik yönden analiz edildi. Beyin, beyincik ve beyinkökünden alınan arşiv kesitleri histopatolojik inceleme amacıyla hematoksin-eozin, immunohistokimyasal olarak da avidin biotin peroksidaz kompleks yöntemiyle boyanarak, ışık mikroskopunda incelendi. Materyallerin tamamında *L. monocytogenes* antijenleri saptanırken, kültürü yapılan 9 örneğin 5'inden spesifik etken izole edildi. Immunohistokimyasal incelemede antijenler çoğunlukla beyinkökündeki mikroapselerde serbest halde ve/veya nötrofiller ile bazı makrofajların sitoplazmalarında saptandı. MMP-9 ve MMP-7 ise daha çok mikroglia hücreleri, nöronlar, damar endotelleri ve nötrofil lökositlerde tespit edildi. Çalışmada sonuç olarak, immunoperoxidaz yöntemin *L. monocytogenes*'in neden olduğu ensefalitik listeriozisin teşhisinde uygun bir yöntem olduğu ve mikroglia, nöron, damar endotel hücreleri ve nötrofillerin MMP'ların aktivitelerini artırarak, listerial meningoensefalitin patogeneğine katkıda bulunduğu düşünüldü.

Anahtar kelimeler İmmunohistokimya, *Listeria monocytogenes*, meningoensefalit, MMP-9, MMP-7, koyun

Matrix metalloproteinase expression in sheep with listerial meningoencephalitis

Abstract Matrix metalloproteinases (MMPs) have important role in the pathogenesis of several central nervous system (CNS) diseases. This study describes the presence of *Listeria monocytogenes* antigens and the MMP-9 and MMP-7 activity in the brain of 22 sheep with clinical signs and characteristic histopathological findings of listerial meningoencephalitis by immunohistochemically. Of the 22 samples, 9 samples were also investigated using bacteriological culture. Archived sections from the brainstem, cerebrum, and cerebellum were stained with hematoxylin-eosin for routine histopathological examination and avidin biotin peroxidase complex method for immunohistochemistry, and examined by light microscopy. *L. monocytogenes* was isolated from 5 of the 9 cultured samples; however, *L. monocytogenes* antigens were detected in all of the 22 cases (13 uncultured, 4 culture negative, 5 culture positive) using immunohistochemistry. *L. monocytogenes* antigens were located mainly in the

cytoplasm of neutrophils and some macrophages and/or extracellularly within microabscesses of the brainstem. MMP-9 and MMP-7 immunoreactivity were detected in microglia, neurons, endothelial cells and neutrophil. Overall, immunoperoxidase test beneficial for confirming the diagnosis of encephalitic listeriosis caused by *L. monocytogenes*, and microglia, neurons, endothelial cells and neutrophils, contribute to the increased expression of MMPs (MMP-9 and MMP-7) in the listerial meningoencephalitis.

Keywords Immunohistochemistry, *Listeria monocytogenes*, meningoencephalitis, MMP-9, MMP-7, sheep

Dođal enfekte koyun f6t6slerinde *Brucella melitensis* antijenlerinin immunohistokimyasal olarak saptanması

F. İLHAN, Z. YENER

Yüzüncü Yıl Üniversitesi, Veteriner Fakóltesi, Patoloji Anabilim Dalı, Van

Özet Önemli bir zoonotik ajan olan *Brucella melitensis* dünyanın birçok bölgesinde koyun ve keçilerde atıklara neden olmaktadır. Bu çalışmada, atık koyun f6t6slerinde *B. melitensis* antijenlerinin immunohistokimyasal olarak belirlenmesi amaçlandı. Çalışmada materyal olarak 110 adet atık koyun f6t6sü kullanıldı. F6t6slerin akciđer, karaciđer, böbrek ve dalađından alınan kesitler immunoperoksidaz yöntemle boyandı. *Brucella* antijenleri 110 f6t6sün 33'ünde (%30) tespit edildi. Pozitif vakalarda antijenler akciđerde 25 (%22.7), karaciđerde 21 (%19), dalakta 13 (%11.8) ve böbrekte 6 (%5.4) olguda saptandı. *B. melitensis* immunopozitif reaksiyonlara çođunlukla akciđerde nötrofil ve makrofajların sitoplazmasında, karaciđerde Kupffer hücreleri ve portal infiltrattaki makrofajların sitoplazmasında rastlandı. Sonuç olarak, dođal enfekte atık koyun f6t6slerinde immunoperoksidaz boyama tekniklerinin özellikle formalinde fikse edilmiş ve parafinde bloklanmış dokulardaki *B. melitensis* antijenlerinin saptanmasında uygun bir yöntem olduđu tespit edildi.

Anahtar kelimeler Atık koyun f6t6sü, *Brucella melitensis*, immunohistokimya

Immunohistochemical detection of *Brucella melitensis* antigens in cases of naturally occurring abortions in sheep

Abstract *Brucella melitensis*, a worldwide zoonotic pathogen, is a significant cause of abortion in sheep and goats in some countries. This study was carried out to determine the presence of *B. melitensis* antigens in 110 naturally occurring aborted sheep fetuses by immunohistochemistry. Sections of lung, liver, kidney, and spleen of each fetus were stained with immunoperoxidase to detect *Brucella* antigens. *B. melitensis* antigens were detected in 33 (30%) of 110 fetuses. In the 33 positive cases, *Brucella* antigens were found in lung (25; 22.7%), liver (21; 19%), spleen (13; 11.8%) and kidney (6; 5.4%). *B. melitensis* immunopositive reactions were mainly observed in the cytoplasm of macrophages and neutrophils of the lung and in the cytoplasm of macrophages in the portal infiltrates and Kupffer cells of the liver. It was concluded that immunohistochemistry in formalin-fixed, paraffin-embedded tissues is a useful tool for the diagnosis of spontaneous ovine abortion caused by *B. melitensis*.

Keywords Aborted sheep fetuses, *Brucella melitensis*, immunohistochemistry

Bir ceylanda (*Gazella subgutturosa*) generalize AA amiloidozis ve fibrinohemorajik pankreatitis olgusu

A.O. ÇERİBAŞI, Y. ERÖKSÜZ, S. ÇERİBAŞI, H. ÖZER

Fırat Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Elazığ

Özet Bu çalışmada, Malatya Yaban Hayvanı Üretim İstasyonundan nekropsi için getirilen 6 yaşında erkek ceylanda (*Gazella subgutturosa*) generalize AA amiloidozis ve fibrinohemorajik pankreatitis tanımlandı. Nekropside diafragma, dalak, pankreas ve karaciğeri de kapsayan karın organlarının visseral yüzeylerinde yapışmalar gözlemlendi. Mikroskopik olarak, karaciğer kapsülünde fibröz doku artışı ve mononükleer hücre infiltrasyonları ile karakterize kronik yangısal reaksiyonlar saptandı. Congo red ile boyanan amiloid birikimleri pankreas, karaciğer, böbrek ve dalakta tespit edilerek polarize ışık mikroskopunda doğrulandı. Ceylandaki generalize AA amiloidozisin, yapışmalarla karakterize kronik yangı nedeniyle oluştuğu düşünüldü. Sunulan çalışmada, Generalize AA amyloidosis ile birlikte pankreastaki fibrinohemorajik değişiklikler *Gazella subgutturosa* ceylan türünde ilk kez tanımlandı.

Anahtar kelimeler AA amiloidozis, ceylan, *Gazelle subgutturosa*, pankreatitis

Generalized AA amyloidosis and fibrino-hemorrhagic pancreatitis in a *Gazella subgutturosa*

Abstract In this study, generalized AA amyloidosis and fibrino-hemorrhagic pancreatitis were diagnosed in a 6-year-old, male *Gazella subgutturosa* submitted for necropsy from a Wild Animal Production Station in Malatya. Adhesions between the visceral surfaces of abdominal organs including the liver, pancreas, diaphragm and spleen were observed in the necropsy. Microscopically, chronic inflammatory reactions characterized by mononuclear cell infiltration and fibrous connective tissue proliferation were found on the serosal surface in the liver. Amyloid depositions stained with Congo red in the pancreas, liver, kidneys, and spleen were confirmed under a polarized light microscope. Generalized AA amyloidosis in *Gazella subgutturosa* was thought to be responsible for a chronic inflammation characterized by adhesions. In the present study, generalized AA amyloidosis along with pancreatic involvement and fibrino-hemorrhagic changes are described for the first time in the *Gazella subgutturosa* species.

Keywords AA amyloidosis, *Gazella subgutturosa*, gazelle, pancreatitis

Bir buzağıda myokardial epitelyal inklüzyon olgusu

A.O. ÇERİBAŞI, S. ÇERİBAŞI, M. ÖZKARACA, H. ÖZER

Fırat Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı, Elazığ

Özet Bu çalışmada şap enfeksiyonunun malign formu sonrası ölen 2 aylık erkek Holştayn ırkı buzağının kalbinde rastlanan myokardiyal epitelyal inklüzyon olgusu tanımlandı. Makroskobik olarak myokard üzerinde kaplan postu görünümü saptandı. Myokardiyal epitelyal inklüzyon ışık mikroskobik, histokimyasal ve immunohistokimyasal yöntemler kullanılarak incelendi. Mikroskobik olarak, nonpurulent myokarditis tablosu ile birlikte sol ventrikül myokardında, fokal yerleşimli, kübik epitel hücreleri ile döşeli tubular ve asiner yapılar dikkati çekti. Masson Trichrome ile boyamada pek çok tubular ve asiner yapıların yoğun kollagen ile çevrelenmiş olduğu saptandı. Tubular ve asiner yapılar PAS pozitif bazal membrana sahipti. Immunohistokimyasal boyamalarda tubular ve asiner yapıların hem vimentin hem de pansitokeratin ile pozitif, stromanın ise sadece vimentin pozitif olduğu görüldü.

Anahtar kelimeler Buzağı, epitelyal inklüzyon, myokard

Myocardial epithelial inclusions in a calf

Abstract In this study, myocardial epithelial inclusions were accidentally detected in myocardium of a male Holstaysn calf, 2 month old, which died due to malign form of stomatitis aphtosa infection. Macroscopically tiger heart lesions were found on myocardium. Light microscopic, histochemical and immunohistochemical methods were used to examine myocardial epithelial inclusions. Microscopically, nonpurulent myocarditis along with focal tubular and acinar structures covered with cuboidal epithelial cells were seen in the myocardium of the left ventricle. It was detected that, most tubular and acinar structures stained with massons trichrome were to be surrounded with a dense collagen. Tubular and acinar structures had PAS positive basement membrane. Immunohistochemical staining revealed that tubular and acinar structures were both vimentin and pancytokeratin positive and the connective tissue was only vimentin positive.

Keywords Calf, epithelial inclusion, myocard

Bir koyunda T hücreli lenfoma olgusu

A.O. ÇERİBAŞI, M. ÖZKARACA, S. ÇERİBAŞI, H. ÖZER

Fırat Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Elazığ

Özet Bu çalışmada, teşhis amacıyla anabilim dalımıza, karaciğer ve böbrekleri getirilen 3 yaşında Akkaraman ırkı bir koyunda lenfositik tipte T hücreli lenfoma olgusu tanımlandı. Makroskopik olarak, her iki böbreğin korteksinde, beyaz renkli, yaklaşık 1 cm çapında, nodüler formasyonlar saptandı. Solgun ve yağlı görünüşteki karaciğerin hacminin büyüdüğü gözlemlendi. Karaciğerde de böbreklerdeki lezyonlara benzeyen düzensiz nodüller mevcuttu. Mikroskopik olarak; karaciğer ve böbrekteki nodüler lezyonların, üniform yapıda lenfosit birikimlerinden oluştuğu gözlemlendi. Olgun lenfositlere benzeyen ancak boyut olarak daha büyük ve daha az kromatin içeren bu hücreler lenfositik tipte lenfoma hücreleri olarak değerlendirildi. Portal bölgede daha yoğun olmak üzere tüm karaciğer parankiminde lenfosit birikimleri dikkati çekti. Lenfosit birikimleri nedeniyle böbrek korteksi ve karaciğer parankimi normal histolojik görünümünü kaybetmişti. İmmunohistokimyasal olarak tümör hücreleri, T lenfositleri için spesifik bir marker olan CD3 ile pozitif, B lenfositleri için spesifik bir marker olan CD20 ile negatifti. Bundan dolayı, tümör T hücreli lenfositik tipte lenfoma olarak tanımlandı.

Anahtar kelimeler İmmunohistokimya, koyun, lenfoma

T cell lymphoma in a sheep

Abstract In this study, Lymphocytic T cell lymphoma was detected in liver and kidneys of a 3 year old Akkaraman sheep which was submitted to the pathology department for diagnosis. Macroscopically, nodular formations with white colour and about 1 cm size were observed in the cortex of both kidneys. The appearance of the liver was pale, fatty and large. The irregular nodules were observed in the liver, similar to the lesions in the kidneys. Microscopically, the nodular lesions in the liver and kidneys were consisted of uniform lymphocytic accumulations. These lymphocytes were similar to the mature lymphocytes although they were bigger and had less chromatin. Lymphocytic accumulations were observed in the liver parenchyma, especially more severely in the portal area. The cortex of the kidneys and liver parenchyma lost normal histological structure due to lmyphocytic accumulations. Immunohistochemically, tumor cells were positive for CD3 which is a specific marker for T cell lymphocytes and negative for CD20 which is a specific marker for B cell lymphocytes. Thus, the tumor was described as type of lymphocytic T cell lymphoma.

Keywords Immunohistochemistry, lymphoma, sheep

Kilis keçilerinde perineal melanoma

Z. ÖZYILDIZ¹, C. CEYLAN², R. YILMAZ¹, Ş.Y. ÖZSOY³

¹Harran Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Şanlıurfa

²Harran Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Şanlıurfa

³Mustafa Kemal Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Hatay

Özet Çalışmada yaşları 3-8 yaş arasında değişen açık kahve, kahve-bej renkli, 13 adet dişi Kilis keçisinde perineal bölgede görülen melanomlar incelendi. Harran Üniversitesi Veteriner Fakültesi Cerrahi Anabilim Dalı'na 2002-2010 yılları arasında perineal bölgede değişen büyüklüklerde kitle şikayetiyle getirilen Kilis keçileri çalışmanın materyalini oluşturdu. Kitlelerden alınan doku örnekleri %10'luk tamponlu formaldehitte tespit edilerek, rutin doku takibinden geçirilip, parafin bloklara gömüldü ve 5 µ kalınlığında kesilerek Hematoksilin&Eozin (H&E) ile boyandı. Makroskopik incelemede; kitlelerin elastik kıvamda, koyu kahve-siyah renkte, yüzeyi nekrotik ve ülserli olduğu gözlemlendi. Kesit yüzlerinin lobüler yapıda, merkezde gri-beyaz, çevreye doğru koyu kahve-siyah renkte olduğu görüldü. Mikroskopik olarak; çok katlı yassı epitelin bazı bölgelerinde erozyon, ülser ve kanama alanlarına rastlandı. Bazal tabakanın hemen altından başlayarak dermise doğru ilerleyen, polihedral, yuvarlak ya da iğ şekilli, anaplastik, sitoplazmalarında değişen derecede koyu kahve-siyah renkli pigment içeren pleomorfik hücreler görüldü. Bu hücreler arasında ince fibröz bir stroma ile çok sayıda yeni damar oluşumuna rastlandı. İncelenen kesitlerde mitotik aktivitenin yüksek olduğu gözlemlendi. Bu çalışmada ilk kez Şanlıurfa bölgesindeki Kilis keçilerinde perineal bölgede görülen malign melanomların klinik ve histopatolojik tanımlanması amaçlanmıştır.

Anahtar kelimeler Kilis keçisi, melanom, perineal bölge, histopatoloji

Perineal melanoma in Kilis goats

Abstract In this study melanomas were evaluated on perineal region in 13 female Kilis goats ranged from 3-8 years old, light brown or brownish-cream in colors. Material of this study were constituted that Kilis goats were brought to complaint of varied sized perineal mass in Harran University Faculty of Veterinary Medicine department of surgeon between 2002-2010 years. Tissue samples were fixed 10% buffered formaldehyde, dehydrated, waxed and embedded in paraffine blocks. Blocks are cutting in 5 µ thickenes and staining with Hematoxyline&Eosine (H&E). Macroscopically; tumoral mass have elastic in consistence, dark brown-black in color, necrotic and ulcerated surface. Microscopically; the slides compounded of predominantly pleomorphic, polihedral, anaplastic, round and spindle shaped neoplastics cells of variable sizes in dermis. The cells contained variable amounts of dark brown intrasitoplasmic pigment granules. Mitotic figures were numerous. In this study, for the first time, it has been reported melanomas in perineal region of Kilis goats between 2002-2010 years in Harran University Faculty of Veterinary Medicine.

Keywords Kilis goats, melanoma, perineal region, histopathology

Holstein ırkı bir buzağıda segmental omurilik hipoplazisi

F. YILDIZ¹, A. GÜREL¹, Y. DEVECİOĞLU², E. ERAVCI², K. SÖNMEZ¹

¹*İstanbul Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, İstanbul*

²*İstanbul Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, İstanbul*

Özet Genetik ve nutrisyonel faktörler, enfeksiyon ve toksinler gibi çevresel faktörler ile fertilizasyon teknikleri kongenital malformasyonların nedenleri olarak gösterilmektedir. Bu tip malformasyonlara sahip hayvanların doğum sonrası ayağa kalkamadıkları ve bu klinik durumun iyi yönde ilerlemediği dikkati çekmektedir. Spina bifida, nöral tüp kapanma defekti ve omuriliğin duplikasyonu en yaygın gözlenen malformasyonlardır. Omuriliğin segmental hipoplazisi nadir görülen bir miyelodisplazi formu olup, omuriliğin bir ya da birden fazla segmentinin gelişimsel eksikliği olarak tanımlanmaktadır. Bu olguda 40 günlük holstein ırkı erkek buzağıda saptanan, segmental omurilik hipoplazisinin sunulması amaçlandı. İstanbul Üniversitesi Veteriner Fakültesi, Eğitim ve Araştırma Hastanesi, Cerrahi Kliniği'ne doğumdan itibaren arka bacakları üzerine kalkamadığı şikayeti ile getirilen buzağının klinik, nörolojik ve radyolojik muayeneleri gerçekleştirildi. Elde edilen bulgularla omurilik kanalının lumbal kesiminde daralma teşhis edildi. Hasta sahibinin isteği üzerine ötenazi uygulandı ve postmortal incelenme için Anabilim Dalımıza sevk edildi. Sistemik nekropsi uygulanan buzağının omurilik kanalı transversal olarak açıldı. Makroskobik inceleme sonrasında alınan doku örnekleri % 10'luk formaldehit çözeltisi ile tespit edildi, rutin işlemlerden geçirildi, hematoksilin eozin ile boyandı ve ışık mikroskopta incelendi. Makroskopik olarak 3. ve 5. lumbal omurlar arasına karşılık gelen omurilik segmentinde çapın küçüldüğü, yapılan kesitlerde gri maddenin düzensiz ve atrofik görüldüğü belirlendi. Makroskopik olarak omurilik çapının daraldığı alanların mikroskopik incelemesinde gri maddede nöronal dejenerasyon ve atrofi, ak maddede belirgin demiyelinizasyon olduğu, kanalis sentralisin yer yer genişlediği ve düzensizleştiği, kistik boşluklara dönüşerek hidromiyeli şekillendiği, en küçük çaplı kesitte ise kanalis sentralisin tamamen yok olarak bu bölgede kesintiye uğradığı tespit edildi. Ayrıca dorsal ve ventral funikulüslerde değişik boyutlarda sringomiyelik kavitasyonlar belirlendi. Klinik bulguların doğumdan itibaren gözlenmesi, spinal kanalın kemik çatısında her hangi bir patolojik değişikliğe rastlanmaması ve histopatolojik bulgular ortak olarak değerlendirildiğinde olgu segmental omurilik hipoplazisi olarak tanımlandı.

Anahtar kelimeler Buzağı, omurilik, malformasyon, hipoplazi

Segmental hypoplasia of the spinal cord in a Holstein calf

Abstract Genetic and nutritional factors, environmental factors such as infections and toxins and fertilisation techniques have been pointed as the reasons of congenital malformations. It has been noticed that the animals which have these malformations are not able to stand on their feet and the clinical state is getting worse. Spina bifida, spinal neural tube closure defect and spinal duplication are the mostly encountered

malformations. However, spinal segmental hypoplasia is an uncommon form of myelodysplasia. It is also described that the developmental defect of one or more segments of spinal cord. The aim of this study was to present clinical and histopathological features of segmental hypoplasia of the spinal cord which was detected in a 40-day-old, male Holstein calf. The calf which was not able to stand up after parturition was submitted to the Surgery Clinic of Istanbul University Faculty of Veterinary Medicine, Education and Research Hospital. Clinical, neurologic and radiologic examinations were administered. The findings pointed to the narrowing at the lumbar region of spinal cord. The animal was euthanized by the owner's demand and impelled to our department for postmortal examination. Systemic necropsy was applied and spinal channel was excised transversally. Then tissue samples were collected for histopathologic inspections after gross pathology. The samples were fixed by 10 % formalin, routinely processed, stained by hematoxylin&eosin and assessed under light microscope. Grossly, the diameter of spinal segment corresponding to the interval of 3. and 5. vertebrae was decreased and the gray matter was disordered and atrophic in the sections. In these areas, neuronal degeneration and atrophy in gray matter, marked demyelination in white matter, dilatation and disorder in canalis centralis, forming of hydromyelic cavity were detected microscopically. Canalis centralis was absent in the section of the smallest diameter segment. Moreover syringomyelic cavitations in different sizes were observed in dorsal and ventral funiculus. The case was described as a segmental hypoplasia of the spinal cord when the observation of clinical aspect since parturition, any pathologic disorders in the spinal column and the histopathologic aspects were evaluated altogether.

Keywords Calf, spinal cord, malformation, hypoplasia

Bir koçta nazofaringeal apse olgusu

E. AKDEŞİR¹, G. ÖZYİĞİT², E. BÜYÜKCANGAZ³, M.M. KAHRAMAN¹

¹Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

²Uludağ Üniversitesi, Veteriner Fakültesi, Anatomi Anabilim Dalı, Bursa

³Uludağ Üniversitesi, Veteriner Fakültesi, Mikrobiyoloji Anabilim Dalı, Bursa

Özet İki konka ve palatofaringeal ark arasında yer alan nazofarinks, farinks oluşturulan üç kompartımandan birisidir; muayenesi genellikle endoskopi ile yapılmaktadır. Olgu, nörolojik bulgular sergileyen 2,5 yaşlı, kıvırcık ırkı, bir koçun postmortem muayenesinde nazofaringeal bölgenin dikkatli incelenmesi sonucunda gözlenen apsenin sunulmasıdır. Olguda disfaji, genel durum bozukluğu, uygulanan çeşitli antibiyoterapi ve vitamin desteğine rağmen arka bacaklarla başlayıp tetraplejiye kadar ilerleyen nörolojik semptomlar gözlenmiş, yapılan tedaviye cevap alınmaması üzerine, sakrifiye edilen hayvanın nekropsisi talep edilmiştir. Nekropside nazofaringeal bölgede yumuşak damağın altında 6x5x8 cm boyutlarında, medulla spinalise atlanto oksipital aralıkta temas eden apse gözlemlendi. Lezyonun histopatolojik incelemesinde merkezde kalsifiye alanlar ve nekrotik materyal, etrafında yangı hücreleri ve bağ doku kapsülü gözlemlendi. Ayrıca böbrek korteksinde apse odağı ve nonpurulent kronik intersitisyel nefrit gözlemlendi. Apse içeriğinin mikrobiyolojik incelemesinde *Proteus vulgaris* etkeni üretildi. Koyunlarda nörolojik semptomlarda ayırıcı tanıda listeriosis, gebelik toksemisi, poliensefalomalazi, vestibuler sendrom, coenurosis, scrapie, visna, merkezi sinir sistemi tümörleri ve çeşitli toksikasyonlar düşünülmektedir. Nazofaringeal bölge koyunlarda *Pasteurella* etkenlerine giriş kapısı olduğu gibi mikotik rinitisin yerleşme yeridir. Küçük ruminantlarda kazeöz lenfadenit ve aktinobasilloz gibi çeşitli hastalıklarda oral, retrofaringeal apseler bildirilmiştir. Bir atta *Brucella suis*, bir kaplumbağada herpesvirusa bağlı oral apsedan bahsedilmektedir. Küçük çocuklarda da pnömonileri takiben retrofaringeal apseler görülmektedir ve bu apselerden etken olarak *Staphylococcus spp.*, *Streptococcus spp.*, *Corynebacterium spp.* türleri izole edilmiştir. *Proteus vulgaris* toprakta ve bağırsak florasında bulunan, hayvanlarda üriner sistem enfeksiyonları, septisemi, otitis eksterna, endometrit ve mastitise neden olabilmektedir. Sunulan olguda, nazofaringeal apse medulla spinalis üzerine yaptığı basınçtan dolayı nörolojik semptomlara neden olmuştur. Tanı ve ayırıcı tanı koymada ağız boşluğunun dikkatli muayenesinin ihmal edilmemesinin önemini bu olgu kez daha doğrulamıştır.

Anahtar kelimeler Nazofarinks, apse, koyun, *Proteus vulgaris*

A nasopharyngeal abscess in a ram

Abstract Nasopharynx, by locating between the two choanae and palatopharyngeal arch is one of the three compartments of the pharynx and in general clinical exploration of the region is made possible by endoscopy. The abscess case, presented here belongs to a narrow-tailed domestic "kivircik breed" 2.5 years old ram with a

neurological signs, which is only possible make the diagnose a thorough examination of the nasopharyngeal region during the necropsy. The sheep with dysphagia and in deterioration since did not respond to several antibiotherapy and vitamin supplementation and neurological symptoms started with hind legs and ended up with tetraplegia, sacrificed for diagnostic necropsy procedure. In necropsy, an abscess with 6x5x8 cm in diameters at the nasopharyngeal region locating beneath the soft palate and in communication with the spinal medulla at the atlanto-occipital space was observed. Histopathology of the collected tissue samples of the region revealed centrally located necrosis with calcification and surrounding inflammatory cells and connective tissue capsule. In addition the kidney had a focus of abscess in the cortex and a chronic interstitial nephritis. Microbiologic examination of the content of the abscess showed *Proteus vulgaris*. In the sheep with neurological signs Listeriosis, pregnancy toxemia, polioencephalomalacia, vestibular disease, coenurosis, scrapie, visna, neoplasms of central nervous system and various toxications are considered for differential diagnosis. Nasopharyngeal region is portal of entry for *pasteurella* agents and also site of development for mycotic rhinitis. In the small ruminant, small abscess in the oral and retropharyngeal region in various diseases like caseous lymphadenitis and actinobacillosis have been reported. There are occurrences of oral abscess due to *Brucella suis* in a horse and herpes virus in a turtle. In small children retropharyngeal abscess as a sequel of pneumonia develop and bacteria species like *Staphylococcus spp.*, *Streptococcus spp.*, *Corynebacterium spp.* have been isolated. *Proteus vulgaris*, which is found both in the flora of the soil and intestine, might cause urinary system infections, septicemia, otitis externa, endometritis and mastitis. In this presented case here, nasopharyngeal abscess produced neurological signs by pressure created upon the spinal cord. With these aspects, this case emphasized once more that the meticulous oral examination is a crucial component that should not be neglected in the differential diagnosis of diseases with neurological signs.

Keywords Nasopharynx, abscess, sheep, *Proteus vulgaris*

Bir alaca inekte deri tutulumlu “multisentric lenfosarkoma” olgusu

A. ALASONYALILAR DEMİRER¹, M.M. KAHRAMAN¹, B. YILDIRIM²

¹Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

²Akçalar Belediyesi Mezbahası Veteriner Hekimi, Bursa

Özet Sığırlarda lenfomalar özellikle süt sığırcılığında sık görülebilen tümörlerdir. Yaş artışı ile hastalık oluşma riski artarak 5- 8 yaş arasında zirve yapar. Erişkinlerde tümör multisentrik görünüm sergileyebilir; hastalığın deri formu tanı konulana kadar pek çok farklı hastalık ile karışabildiğinden dikkat edilmesi gereken bir hastalıktır. Sunumu yapılan olgu sorumlu veteriner hekim tarafından patoloji anabilim dalına getirilen 6,5 yaşlı, siyah-beyaz alaca ırk, dişi sığira ait deri-derialtı dokusu, kosta-interkostal kasları, akciğer ve böbrek dokusu ile kemik iliği numunelerinin incelenme sonuçlarıdır. Kostal kaslar üzerinde ve derialtı dokusunda çapları 1,5 ile 4,5 cm arasında değişen, yuvarlak şekilli, kabarık, çevresi hiperemik odaklar görüldü. Böbreğin kesit yüzü beyaz renkte infiltrasyon odakları taşımaktaydı. Kas dokusu ve böbrekten hazırlanan tuşe preparatlar hemacolor® ile boyandı; doku örneklerinden, histopatolojik inceleme amacıyla % 10'luk tamponlu formaldehit tespitini takiben, hazırlanan kesitler hematoksilin-eozin (HE) ve Masson trichrome boyası ile boyandı. Seçilen kesitlerin bazılarında CD3 ve CD20 primer antikoları ile streptavidin-biotin tekniği uygulandı. Tuşe preparatlarda yuvarlak nükleuslu, sitoplazmik sınırları belirgin iri hücreler görüldü. Çizgili kaslar çevresine ve kas fragmentleri arasına infiltre olmuş çok sayıda hücre infiltrasyonları gözlemlendi. Bu hücreler iri, yuvarlak şekilli, veziküler, çentiksiz ökromatik bir nükleusa, ince bir sitoplazmaya sahip mononükleer seriden hücrelerdi. İnfiltrasyon alanlarında kas demetlerinin gözden silindiği, kas hücrelerinin arasını kollajenden zengin bir bağ dokusunun doldurduğu dikkati çekti. Böbrekte kortekste tüm intersitisyel alanı kaplayan mononükleer seriden neoplastik hücre infiltrasyonları görüldü. Kemik iliği boşalmış görünümdeydi. Deride, dermiste ter bezleri çevresinde ve subkutise kadar uzanan neoplastik hücre infiltrasyonu şekillenmişti. Deri içinde kollajen doku içine yayılmış, tubuller arasında CD3 ile hafif pozitif boyanmış hücreler gözlemlendi. Genel olarak CD20 ile hücrelerde boyanma olmadığı saptandı. Histopatolojik ve immunohistokimyasal boyanma özellikleriyle tümörün T hücre menşeli lenfoma olduğuna karar verildi.

Anahtar kelimeler Multisentrik lenfoma, kutanöz lenfoma, sığır, immunohistokimya

Multicentric lymphoma with cutaneous involvement in dairy cattle

Abstract Lymphomas are frequently seen tumors in especially dairy cattle. Risk of occurrence of the disease increases by age and reaches a peak between the ages of 5-8. In adults tumors might have multicentric appearance and cutaneous form since might be confused various other diseases warrant a careful attention until reaching the diagnosis. The case presented here is the examination results of the cutis and subcutaneous tissue, costal and intercostals muscles, lungs and kidney tissues and

bone marrow samples of a 6.5 years old Holstein breed, female cow submitted to the pathology by the veterinarian in charge of the slaughterhouse. In the macroscopic examination, on the costal muscle and in the subcutaneous tissue raised foci in circular form surrounded with hyperemia and of 1.5 to 4.5 cm in diameter were observed. Cut surface of the kidney had white infiltration foci. Imprints of muscle and kidney tissues stained with hemacolor®; sections of 10% buffered formalin fixed tissues were stained with hematoxylin and eosin and Masson's trichrome stain. Some of the selected tissues treated with CD3 and CD20 primary monoclonal antibodies and streptavidin-biotin techniques. Imprints of tissues revealed large cells with round nucleus and distinct cytoplasmic borders. Many infiltrated cells were observed around the striated muscle cells and between the muscle fragments. These were of cells with mononuclear lineage with large and round in appearance and have a vesicular, noncleaved euchromatic nucleus. Within the infiltration areas disappearance of the muscle bundles and invasion of collagen rich connective tissue between the muscle cells was noticed. Replacement of Almost the entire cortical interstitial tissue of the kidney replaced with cells of neoplastic mononuclear lineage. Bone marrow had a depleted appearance. In dermis, neoplastic cell infiltration was around the sudoriferous glands and extending into the subcutis. Cells stained positively with CD3 monoclonal antibodies were seen in the skin as distributed within the collagen tissue and intertubular areas of the kidney. In general staining with CD20 monoclonal antibody was absent. With histopathologic and immunohistochemical staining aspects this neoplastic development was diagnosed a lymphoma of T cell lineage.

Keywords Multicentric lymphoma, cutaneous lymphoma, cattle, immunohistochemistry

Bir köşekte nutrisyonel kardiyomiyopati olgusu

Ö. ÖZDEMİR, M.K. ÇİFTÇİ, F. HATİPOĞLU, M. ORTATATLI, O. YAVUZ, Ö. KANAT

Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

Özet Bu sunumda 1,5 aylık dişi bir köşekte (deve yavrusu) nutrisyonel kardiyomiyopati olgusu tanımlandı. Karatay Belediyesi Hayvanat Bahçesi'nde ölü olarak bulunan deve yavrusunun nekropsisinde, kalpte sol epikartta daha belirgin olmak üzere her iki ventrikül ile interventriküler septumda solgun, beyazımsı renkte alanlara rastlandı. Akciğerler oldukça hacimli ve koyu kırmızımsı renkte olup trake ve bronşlarda köpüklü sıvı vardı. Mediastinal ve bronşiyal lenf düğümleri büyümüş, kesit yüzleri koyu kırmızı renkteydi. Karaciğerde konjesyon ve tiroid bezinde büyüme gözlemlendi. Mikroskopik incelemede kalp kasında, hiyalin dejenerasyonu, zenker nekrozu ve yaygın kalsifikasyon ile hafif mononükleer hücre infiltrasyonu belirlendi. Bu lezyonlar epikartta daha şiddetliydi. Akciğerde konjesyon, alveollerde ödem ile birlikte az sayıda eritrositlere rastlandı. Mediastinal lenf düğümlerinde, subkapsular, kortikal ve medullar sinuslarda yoğun eritrosit birikimleri, karaciğerde sinuzoidlerde hafif hiperemi, bağırsaklarda lamina epitelyaliste dejenerasyon ve deskuamasyon, propriyada nötrofil ve eozinofil granülosit infiltrasyonu dikkati çekti. Tiroid folliküllerinin epitellerinde hiperplaziye bağlı papiller uzantılar gözlemlendi. Makroskopik ve mikroskopik bulgular ışığında deve yavrusunda beslenme yetersizliğine bağlı olduğu düşünülen beyaz kas hastalığı ve buna bağlı akciğerde dolaşım bozukluğu şekillendiği kanaatine varılmıştır.

Anahtar kelimeler Deve yavrusu, beyaz kas hastalığı, köşek

A case report of nutritional cardiomyopathy in a young camel

Abstract In this report, nutritional cardiomyopathy was described in a 1.5 month old female baby camel. At the necropsy of the young camel, which was found as dead in Karatay Municipality Zoo, pale, whitish colored areas were seen on the epicardium of heart ventricles and interventricular septum. The pale areas were more prominent in the left heart ventricle. Lung was fairly volumed and dark reddish colored, and there was foamy fluid in trachea and bronchi. Mediastinal and bronchial lymph nodes were enlarged, and cut surfaces were dark red colored. Congestion in the liver and enlargement in thyroid glands were also observed. In microscopical examination of the heart muscle, hyaline degeneration, Zenker's necrosis and widespread calcification with mild infiltration of mononuclear cells were determined. These lesions were more severe in the epicardium. In lung, diffuse passive hyperemia and small number of erythrocytes with edema in alveolus were found. Intensive erythrocyte accumulation in sub-capsular, cortical and medullar sinuses in mediastinal lymph nodes, mild hyperemia in sinusoid of the liver, degeneration and desquamation of lamina epithelialis, neutrophil and eosinophil granulocyte infiltration in lamina propria in small intestine were noticed too. Papillary extensions in epithelium of thyroid follicles due to epithelial hyperplasia were observed. It was concluded from macroscopic and

microscopic findings that inadequate nutrition probably caused white muscle disease resulting in blood circulation disorder in lungs in the young camel.

Keywords Young camel, white-muscle disease

Yumurta tavuklarında hemorajik yağlı karaciğer sendromu

O. YAVUZ, H. ERER, Ö. KANAT, M.K. ÇİFTÇİ, Ö. ÖZDEMİR, F. HATİPOĞLU

Selçuk Üniversitesi Veteriner Fakültesi Patoloji Anabilim Dalı, Konya

Özet Bu sunumda, Konya bölgesinde yumurta tavukçuluğu yapılan 20.000 kapasiteli ticari bir işletmeden, yumurta verimi ile kalitesinde düşüş ve ani ölüm şikâyetleriyle getirilen 70 haftalık, Leghorn ırkı tavuklarda kanamalı yağlı karaciğer sendromu (fatty liver-hemorrhagic syndrome) tanımlandı. Dış bakıda hayvanların karın bölgesinin şişkin ve vücut ağırlıklarının oldukça fazla olduğu belirlendi. İbik ve sakalların solgun olduğu dikkati çekti. Karın boşluğu açıldığında, geniş bir alanı kaplamış bol miktarda sarımsı renkte yağ kitlesi ile karaciğer üzerinde değişen miktarlarda pıhtılaşmış kana rastlandı. Kan pıhtıları kaldırıldığında karaciğerin solgun sarımsı renkte veya yer yer alacalı görünümde ve gevrek kıvamda olduğu, değişik büyüklük ve derinlikte rupturlar ile subkapsular kanama alanlarının bulunduğu gözlemlendi. Hepatositlerin değişen büyüklükte yağ vakuelleri nedeniyle genişlediği ve sinuzoidlerin daraldığı veya yer yer hiperemik görünümde olduğu dikkati çekti. Ayrıca, parankimde değişen büyüklükte, içerisinde hemosiderin pigmenti de bulunan düzensiz kanama alanları ile birlikte bazıları organize olmuş farklı büyüklükte hematoma rastlandı. Aynı zamanda parankimde düzensiz yerleşimli, şekilsiz, homojen, pembe renkte ve bazen fibrinöz yapıda birikimler görüldü. Yüksek enerjili yemle beslenme sonucu ortaya çıktığı anlaşılan kanamalı yağlı karaciğer sendromu bulgularının, işletme koşulları ile rasyon bileşiminin düzeltilmesini takiben kaybolduğu ve ölümlerin durduğu izlenmiştir. Rasyondaki enerji dengesizliklerinin, bu tür beslenme bozukluklarına ve önemli derecede ekonomik kayıplara yol açması nedeniyle, sektördeki ilgililerin dikkatini çekmek için olgunun sunumunun uygun olacağı düşünülmüştür.

Anahtar kelimeler Tavuk, kanamalı yağlı karaciğer sendromu

Fatty liver hemorrhagic syndrome in laying hens

Abstract In this presentation, fatty liver hemorrhagic syndrome was described in 70 week-old, Leghorn hens with complaint of sudden death and decreased yield and quality of egg, from a commercial poultry farm with 20000 capacity in Konya province. It was determined that the chickens had swollen abdomen and overweighted. Comb and wattles were pale. When abdominal cavity is opened, it was observed yellowish abundant fat covered a large area and varying amounts of clotted blood masses on liver. Yellowish, pallid or mottled appearance and friable consistency, deep ruptures with different sizes and subcapsular haemorrhages were seen in the liver when blood clots were removed. Hepatocytes distended with fat vacuoles and narrowed or hyperemic sinusoids were noticed. Furthermore, varied sized, irregular haemorrhagic areas also including the hemosiderin pigment and different sizes of hematomas, which of some organized were found in liver parenchyma. Additionally, irregularly located, amorphous, homogeneous, pink colored and sometimes fibrinous masses were seen.

The emerged signs of fatty liver hemorrhagic syndrome resulted from feeding with high energy ration were disappeared after rearrangement of management conditions and composition of the ration. It was concluded that the presentation of the case was appropriated because of attracting the attention of the poultry industry, to significant economic losses and such nutritional disorders on account of energy imbalance of the ration.

Keywords Laying hens, fatty liver hemorrhagic syndrome

Sibirya kurdu bir köpekte metastatik transmissible venereal tümör olgusu

Ö. KANAT¹, M. ORTATATLI¹, O. YAVUZ¹, M. EROL², F. HATIPOĞLU¹, M.K. ÇİFTÇİ¹

¹Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

²Selçuk Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Konya

Özet Anamnezinde bir yıldır aralıklarla devam eden prepusyumda kanama ile bir aydır da zayıflama ve çabuk yorulma şikâyetleri bulunan, 2 yaşlı, Husky ırkı, erkek bir köpeğin klinik muayenesinde penis üzerinde 0,5-1,5 cm çaplarında, taşkın, koyu kırmızı renkte tümöral yapılar dikkati çekti. Radyoğrafik muayenede karın boşluğu, karaciğer, dalak ve mediastinumda değişen boyutlarda kitleler gözlemlendi. Tanı amaçlı yapılan laparatomide karın boşluğu ve parankim organlarda çok sayıda tümöral kitlelerin görülmesi üzerine köpeğin ötanazi edilmesine karar verildi. Peniste klinik olarak gözlenen tümöral kitlelere ilaveten nekropside, prepusyumda da çapları 0,3-2 cm arasında değişen çok sayıda kitle görüldü. İnguinal bölgede ise deri altında 3,5x3,5x3,5 cm boyutlarında kesit yüzü beyazımsı renkte bir kitle belirlendi. Karın boşluğunda lumbo-sakral bölgede bilateral yerleşimli 13x11x7 cm ve 11x10x8 cm boyutlarında, hafif yumuşak kıvamlı, kesit yüzleri beyazımsı renkte ve yer yer kanamalı iki adet kitle görüldü. Karaciğerde nohuttan ceviz büyüklüğüne kadar değişen karnabahar benzeri, taşkın ve göbekli görünümde, kesit yüzü beyazımsı renkte çok sayıda tümöral kitle tespit edildi. Dalakta ise 0,5 cm çapında bir adet nodül gözlemlendi. Göğüs boşluğunun ön ucunda, kalbin bazisine ve sternuma bitişik 8x6x5 cm boyutlarında, kesit yüzü beyazımsı renkte kitle belirlendi. Tümöral kitlelerin mikroskopik muayenesinde, ince fibröz stroma ile birbirinden ayrılan solid kordonlar halinde, veziküler çekirdeği ve santral yerleşimli belirgin çekirdekçiği olan uniform, yuvarlak, polihedral ya da ovoid şekilli, eozinofilik, orta derecede sitoplazması olan neoplastik hücreler görüldü. Bu alanlarda yaygın mitotik figürler ile yer yer perivasküler yerleşimli mononükleer hücre infiltrasyonlarına rastlandı. Tümöral kitlelerden hazırlanan sitolojik preparatların Giemsa boyamalarında, tümör hücrelerinin sitoplazmalarının çok sayıda belirgin mikrovakuol içerdiği dikkati çekti.

Anahtar kelimeler Sibirya kurdu, transmissible venereal tümör, metastaz, sitoloji

Metastatic transmissible venereal tumor in a Husky dog: Case report

Abstract In clinical examination, tumoral structures, which were crimson colour, overflowing, in 0.5 to 1.5 cm diameters, were seen on penis of a dog, Husky breed, two year elderly. In history, the dog had complaints with weight loss and quick fatigue for a month together with bleeding at intervals in the preputium for long one year period. Masses in varying sizes were observed at radiographic examination of the abdominal cavity, liver, spleen and mediastinum. Because of the presence of a large number tumor masses at abdominal cavity and parenchymal organs, in diagnostic laparotomy, the dog was decided to euthanasia. In necropsy, in addition to tumoral masses

observed clinically in the penis, a great number of masses varying from 0.3 to 2 cm in diameters were seen in the preputium. A mass having whitish colour of cut surface and 3,5 cm in diameter was determined under the skin in the inguinal region. With slightly soft consistency and 13x11x7 cm and 11x10x8 cm sized two masses, which were whitish colour of their cut surfaces with some haemorrhagic patches, were seen bilaterally located in lumbo-sacral region of the abdominal cavity. Overflowing, cauliflower-like, pot-bellied in appearance numerous tumoral masses, varying from chickpea to walnut size and whitish colour of cut surfaces were detected in the liver. In the spleen, there was a nodule in 0.5 cm diameter. A mass having whitish colour of cut surface, 8x6x5 cm in size and adjacent to the heart base and the sternum was determined in the front side of the thorax cavity. In microscopical examination of tumoral masses, polihedral or ovoid-shaped to round, uniform neoplastic cells having moderate eosinophilic cytoplasm, vesicular nucleus and centrally located prominent nucleolus were seen. The cells created solid cords separated by thin fibrous stroma. Mitotic figures were common in this area and there were perivascular mononuclear cells infiltration. In Giemsa staining of cytological preparations, numerous clear cytoplasmic microvacuoles were noticed in tumor cells.

Keywords Husky, transmissible venereal tumor, metastasis, cytology

Bir koyun sürüsünde antiparaziter ilaçlamaya ilgili amitraz zehirlenmesi

M.K. ÇİFTÇİ, Ö. ÖZDEMİR, M. ORTATATLI, H. ERER, Ö. KANAT, O. YAVUZ

Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

Özet Bu sunumda, anamnezinde iştahsızlık, yeme içmeden kesilme, sendeleme, ayakta duramama ve ölüm şikâyetleri bulunan bir sürüde amitraz zehirlenmesi tanımlandı. 150 başlık bir sürüye Amitraz etken maddeli antiparaziter ilaç (Kenaz), normal dozunun 3 katı oranında banyo şeklinde uygulanmış, aynı zamanda ağıl da ilaçlanarak hayvanlar ağıla kapatılmış, kapı ve pencereler kapatılarak 2-3 saat bekletildiği ifade edilmiştir. İlaç uygulamasından sonra 15 gün içerisinde 18 adet koyunun ölmesi üzerine sürüden, 3 yaşlı, Akkaraman ırkı bir koyun nekropsi için SÜ Veteriner Fakültesi Patoloji Laboratuvarı'na getirildi. Nekropside, beyin daha kıvamlı ve şişkin olduğu dikkati çekti. Akciğerde bronşiyollerde kıl kurtları ve yer yer parazit nodüllerine rastlanırken, karaciğerde beyaz renkte paraziter kistler ve bağırsaklarda şeritler (*Moniezia sp.*) görüldü. Histopatolojik olarak, beyinde nöropil dokuda çok sayıda iri vakuoller, belirgin bir intramiyelik ödem, ayrıca hafif hiperemi, yer yer perivasküler kanama ile az sayıda mononükleer hücre infiltrasyonu, gliosis ve nöronofaji gözlemlendi. Hayvan sahibinden alınan ilk anamnezde antiparaziter ilaçlamaya ilgili bir bilgi verilmemesine rağmen, nekropsi sırasında koyunun tüyleri ve derisinde dikkati çeken ilaç kalıntısı ve kokusundan yola çıkılarak 15 gün önce antiparaziter ilaç kullanıldığı bilgisine ulaşılmıştır. Bu bilgiler ve beyinde zehirlenmeye işaret eden patolojik bulgular dikkate alındığında olgunun amitraz zehirlenmesi olduğu kanısına varılmıştır.

Anahtar kelimeler Koyun, amitraz, zehirlenme, vakuol

Amitraz poisoning in a sheep flock related to usage of antiparasitic drugs

Abstract In this presentation, amitraz poisoning was described in flocks had a history with anorexia, staggering, inability to stand and death. It was reported that the flocks had 150 animals, were applied antiparasitic drugs (Kenaz) with the active ingredient Amitraz at three times of normal dose via bath, as well as sheep fold were disinfected with this drug, and the doors and windows were kept closed for 2-3 hours. Because of dying 18 sheep within 15 days after treatment, a 3 year-old Akkaraman breed sheep was brought for necropsy to the Department of Pathology, Faculty of Veterinary Medicine. At necropsy, the brain was more consistence and swollen. Lung worms in bronchioles and parasitic nodules in the lungs were found. White colored parasitic cysts in the liver and tapeworm (*Moniezia sp.*) in intestines were also seen. Histopathologically, numerous large vacuoles in the brain parenchymal tissue, distinct intramyelinic edema, also mild hyperemia, with a few perivascular mononuclear cells infiltration and haemorrhage, gliosis and neuronophagia were observed. Although any information about antiparasitic drug usage was not given by animals owner in first anamnesis, the knowledge was reached that antiparasitic drug was applied 15 days

ago owing to smell and drug residue among wool during necropsy, In light of these informations and pathological findings indicating brain's intoxication, the case was concluded to be amitraz poisoning.

Keywords Sheep, amitraz, poisoning, vacuole

Bir köpekte malign melanom ile dalak ve pankreasta nodüler hiperplazi

M. ORTATATLI¹, F. HATİPOĞLU¹, F. ALKAN, Ö. KANAT¹, Ö. ÖZDEMİR¹, O. YAVUZ¹

¹Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

²Selçuk Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Konya

Özet Bu sunumda 5 yaşlı erkek bir Alman kurdu melezinde malign melanom olgusu tanımlandı. Sol alt göz kapağından çene altına kadar uzanan ve üzerinde açık yara bulunan kitleden SÜ Veteriner Fakültesi Cerrahi Kliniği'nde alınan biyopsi materyalinin histopatolojik incelemesinde miks tip malign melanom olduğu belirlendi. Kitlenin operasyona elverişli olmaması ve hayvanın genel durumunun bozulması üzerine, ötanazi edilerek nekropsisi yapıldı. Makroskobik incelemede biri sol gözün hemen altından başlayıp çene altına doğru ilerleyen 4 cm çapında, diğeri maksillanın sol yanından ağız boşluğuna açılan 5 cm çapında ortaları nekrotik, kesit yüzü sarımsı-siyah renkte iki adet tümöral kitle görüldü. Bu kitleleri birbirine bağlayan 1 cm çapında, kesit yüzünde sarımsı-boz renkte ve krema kıvamında eksudat bulunan kordon benzeri bir yapı tespit edildi. Dalakta çapları 1 cm ve kesit yüzleri kırmızımsı-sarı renkte iki adet nodüler yapı gözlemlendi. Pankreasta ise toplu iğne başından mercimek büyüklüğüne kadar değişen beyazımsı renkte odaklar vardı. Böbrekler şişkin, sert kıvamlı olup kapsula altında alacalı görünüm dikkati çekti. Mikroskobik olarak, tümöral kitlenin kesitlerinde mekik şekilli ve/veya geniş sitoplazmalı, yuvarlak yahut polihedral şekilli, atipik özellikleri belirgin, sitoplazmalarında çoğu melanin pigmenti bulunmayan ya da çok az melanin içeren tümör hücreleri görüldü. Büyük santral çekirdeği olan bu hücrelerin bir veya birkaç tane belirgin çekirdekçisi vardı. Ayrıca yer yer iri, çift çekirdekli hücreler ve tümör tipi dev hücreleri de gözlemlendi. Melanin pigmenti epidermise yakın kısımlarda daha belirgindi. Genelde yaygın olan mitoz bazı sahalarda oldukça fazlaydı (x40, 4-5 adet). Tümörde yer yer geniş nekroz alanları gözlemlendi. Makroskobik incelemede dalak ve pankreasta gözlenen kitlelerin ise histopatolojik incelemede nodüler hiperplazi oldukları anlaşıldı. Makroskobik ve mikroskobik bulgularla olgu miks tip malign melanom olarak tanımlandı. Nekropside dalak ve pankreasta belirlenen ve primer tümörle ilişkili metastazlar olabileceği düşünülen kitlelerin metastaz olmadığı anlaşıldığından, bu olgu sunumuyla multiple kitlelerin bulunduğu olgularda her kitlenin tümöral olmayabileceği ve ayrı ayrı histopatolojik muayenelerinin gerekliliği vurgulanmak istenmiştir.

Anahtar kelimeler Köpek, malign melanom, nodüler hiperplazi

Malign melanoma coexisted nodular hyperplasia of spleen and pancreas in a dog

Abstract In this presentation, malign melanoma was described in a 5 year old, male, German Shepherd mongrel dog. A mix type malign melanoma was determined at the histopathologic examination of biopsy material taken from the mass under the left

lower eyelid. Due to the mass wasn't suitable to operation and bad condition of the patient, the dog was euthanased and necropsied. Macroscopically, two tumor masses were seen, one of them, which was 4 cm in diameter, was extending from the left eye just below to under the jaw toward, and the other one, about 5 cm in diameter, was opening to mouth cavity at left side of maxilla. The cut sections of the tumor masses were yellowish black colored with necrotic center. One cm in diameter the cord-like structure connecting these masses to each other was determined. The cut surface of this structure had creamy consistency exudate with yellowish gray colored. At spleen, two nodular structures were seen, each of them was 1 cm diameter and had yellowish red colored cut surfaces. Whitish foci ranging from pin head to lentil size were found in pancreas. Kidneys were swollen, hard consistency and mottled in appearance. In microscopical examination of tumoral masses, spindle-shaped or round to polihedral shaped and markedly atypical cells with large cytoplasm containing no or little melanin pigment were seen. These cells had large central nucleus with one or more marked nucleoli. Moreover, large, binucleated cells and tumor-type giant cells were observed sometimes. Melanin pigment was more prominent in the cells closed to epidermis. Mitosis, which was generally common, was too much in some areas (4 – 5 number in high power). There were large necrotic areas of in some places. The masses observed in macroscopic examination of the spleen and pancreas were determined at histopathological examination that they were nodular hyperplasia. The case was defined as mixed type of malignant melanoma with macroscopic and microscopic findings. In histopathological examination it was understood that the masses observed at spleen and pancreas were not metastasis, whereas they were assumed as metastases associated with primary tumor at necropsy. As seen in this study, in conditions, in which existed multiple masses, each mass may not be associated with tumor, and therefore it was asked to emphasize the necessity of histopathological examination of the each masses, and for this purpose the case was presented.

Keywords Dog, malign melanoma, nodular hyperplasia

Kangal ırkı bir köpekte multisentrik yerleşimli diffuz miks lenfoma

F. HATİPOĞLU¹, Ö. KANAT¹, A. COŞKUN², M. ORTATATLI¹, O. YAVUZ¹, Ö. ÖZDEMİR¹

¹Selçuk Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Konya

²Selçuk Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Konya

Özet Yüzeysel lenf düğümlerinde büyüme, idrar yapmada güçlük şikâyetleri ile getirilen ve ultrasonografik muayenede karın boşluğunda kitleler tespit edilen 5 yaşlı, Kangal ırkı, erkek bir köpeğin lenf düğümlerinden alınan biyopsilerden lenfoma teşhisi konuldu ve hayvan ötanazi edildi. Makroskobik muayenede yüzeysel lenf düğümleri ile karın, göğüs ve pelvis boşluğundaki tüm lenf düğümleri büyümüştü. Bu lenf düğümlerinin boyutları 3x3x2 cm ile 10x6x6 cm arasında değişmekteydi. Kesit yüzleri taşkın görünümde, grimsi renkte ve bazıları kanamalıydı. Akciğerde kranyal loblar koyu renkteydi ve yüzeyinde mercimek büyüklüğünde nodüler yapılar görüldü. Dalak şişkin ve kesit yüzü taşkın görünümde, karaciğer, böbrek ve pankreas oldukça şişkin olup solgun renkteydi. Prostatta büyüme, arka bacaklarda ödem, karın ve göğüs boşluğunda serosanginöz bir sıvı vardı. Mikroskobik olarak lenf düğümlerinde belirgin olmak üzere akciğer, karaciğer, dalak, böbrek, pankreas, kemik iliği ve bağırsak kesitlerinde yuvarlak-oval şekilli, bir veya birkaç tane çekirdekçiğe ve ince granüler kromatine sahip çekirdeklerden oluşan farklı büyüklükte hücreler görüldü. Bu alanlarda yaygın mitoz ve yer yer nekrozlara rastlandı. Tümöral kitlelerin tüm lenf düğümleri ile iç organlarda yaygın şekilde görülmesi ve mikroskobik olarak folliküler yapı göstermeyen, diffuz dağılımlı, irili-ufaklı lenfositik hücrelerden oluşması nedeniyle olgu "multisentrik yerleşimli diffuz miks lenfoma" olarak tanımlandı.

Anahtar kelimeler Köpek, multisentrik, diffuz miks lenfoma

Multicentric diffuse mix type lymphoma in a Kangal breed dog

Abstract Lymphoma was diagnosed in biopsy material taken from a 5 year-old, Kangal breed, male dog which clinically complaint with dysuria and enlargement in superficial lymph nodes. In abdominal cavity of the dog, tumoral masses were determined by ultrasonography and then the dog was euthanased. Macroscopically, all lymph nodes both superficial and located in abdomen, thorax and pelvis were enlarged. These lymph nodes were varying sized between 3x3x2 cm and 10x6x6 cm. The cut surfaces of these lymph nodes were overflowing, greyish coloured, and some were hemorrhagic. In lungs, the cranial lobes were crimson colour, and lentil sized nodular structures were seen on the surface. Spleen was swollen and the cut surface was overflowed. Liver, kidney and pancreas were also quite swollen and pale coloured. Besides, enlargement in prostate, oedema in hind legs and a serosanguineous fluid in abdominal and thoracal cavities were seen. Microscopically different sized round to oval shaped tumour cells with nuclei had fine granular chromatin and one or more nucleoli were observed especially in the lymph nodes and also in lung, liver, spleen, kidney, pancreas, bone marrow and intestinal sections. A lot of mitotic figures and

some necrotic areas were observed in tumour sections. The phenomenon was defined as "multicentrically located diffuse mixed lymphoma" because of microscopically consist of diffusely distributed, small and/or large lymphocytic cells, which was not to show follicular structures, and tumoral masses widely seen internal organs and all of the lymph nodes.

Keywords Dog, multicentric, diffuse mixed lymphoma

Bir keçide rastlantısal yalancı erkek hermafroditizm olgusu

İ. ARICAN¹, S. İNAN², G. ÖZYİĞİT¹, M.Ö. ÖZYİĞİT²

¹Uludağ Üniversitesi, Veteriner Fakültesi, Anatomi Anabilim Dalı, Bursa

²Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

Özet Uludağ Üniversitesi Veteriner Fakültesi Araştırma Uygulama Çiftliğine ait ve Anatomi Anabilim Dalı'nda eğitim amaçlı olarak rutin diseksiyon çalışmaları sırasında kullanılan bir yaşını tamamlamış ve bilinen herhangi bir olumsuz klinik bulgu gözlenmeyen, fenotipik olarak dişi görünümlü, Saanen ırkı bir keçide rastlanan yalancı erkek hermafroditizm olgusu incelendi. Arteria karotis kommunis'ten %10'luk formaldehit ile tespiti yapılarak hazırlanmış olan kadavranın dış bakışında bir çift papilla mamma bulunan meme bezi dokusunun gelişmediği belirlendi. Kavum abdominis'in açılmasını takiben genital organların diseksiyonu yapıldı. Genital organ kısmında ovaryumların yerlerinde "gubernakulum" benzeri sicim şeklinde bir yapının olduğu, bunların hemen yanında sağ ve sol tarafta yer alan eliptik şekilli ve boyutları 27,43x30,45 mm ile 23,33x27,94 mm ve ağırlıkları 26,38 gr ile 24,56 gr olan iki adet testis bulunduğu görüldü. Testisleri asan ligamentler ile bağlantılı olarak uterus, serviks uteri, vajina ve vulvaya rastlandı. Vulva ve klitoris gelişmiş olarak gözlemlendi. Testisten alınan dokuların histopatolojik incelenmesinde, ödemli tunika albuginea'nın testis dokusunu çevrelediği gözlemlendi. Şiddetli derecede hipoplazik tubullere sahip testislerde, tek katlı görünüme sahip tubulus seminiferus'larda sadece sertoli hücreleri ve mitotik aktivite göstermeyen spermatogoniumlar gözlemlendi. Sertoli hücrelerinin çekirdekleri ve spermatogoniumların yer yer nekrotik bir hal aldığı dikkati çekti. Tubullerin bazal membranlarının kalınlaştığı dikkati çekti. Tubuller arası intersitisyel doku ödematöz görünümdeydi. Bazı tubullerin lümenlerinde kalsifikasyon dikkati çekti. Bazı kistik tubulus seminiferuslarda intratubüler yerleşimli homojen pembe renkte konkramentlere rastlandı ve bu alanlardaki bazal membranların incelendiği gözlemlendi. Uterusun kornu bölgesinden alınan kesitte ise propriyal bezler hiperplastikti. Submukozada çoğunluğunu makrofajların oluşturduğu mononükleer hücre infiltrasyonları gözlemlendi. Fenotipik olarak dişi görünümlü Saanen ırkı bir keçide yapılan anatomik ve patolojik incelemeler sonunda, yalancı erkek hermafroditizm olgusu rapor edilmiştir.

Anahtar kelimeler Keçi, yalancı erkek hermafroditizm, Saanen

An accidental male pseudohermaphroditism in a Saanen goat

Abstract The study describes a male pseudohermaphroditism that observed during routine dissection studies of a 1-year-old Saanen goat, phenotypically female, with no known clinical disorder obtained from Uludag University Research and Application Center for student education. The specimen exsanguinated through a cannula inserted into the common carotid artery and fixed with 10% neutral buffered formalin. In inspection, although there was a couple papilla mamma developed, no mammary

gland tissue was determined. Following the reaching to the abdominal cavity the dissection of the genital organs was performed. There were no ovaries, but there was a ligament anatomically resemble inguinal fold (gubernaculum) with an attachment to the testicles. Testicles were in an elliptical shape with dimensions of 27.43 x 30.45 and 23.33 x 27.94 mm and weighing 26.38 and 24.56 grams. Uterus, cervix, vagina, vulva and the clitoris were developed. In microscopic examination of testicular tissue, the testicular tissue was covered by the edematous tunica albuginea. Although seminiferous tubules have sertoli cells and spermatogonium, there were no other developmental stages of spermatogonium. The nuclei of sertoli cells and spermatogonium were necrotic. The thickening of basal membranes tubules was noticed. The interstitial tissue between tubules was edematous. There was calcium deposition in some tubules. In some cystic seminiferous tubules, intratubular localized, homogeneous pinkish colored deposition was found and the basement membrane covering tubules was observed thinner than the other area. In sections taken from the uterine corn, glands in propria mucosa were hyperplastic. There was mononuclear cell infiltration in submucosa, mostly formed by macrophages. After anatomic and pathologic investigation, it was reported male pseudohermaphroditism in a Saanen goat which have female phenotype.

Keywords Goat, male pseudohermaphroditism, Saanen

Bir kedide *Mycoplasma sp.* baęlı piyotoraks (torasik empiyem) olgusu

M. KOCATÜRK¹, K. ÖNAT², **S. İNAN**³, N. ÇELİMLİ⁴, M.Ö. ÖZYİĞİT³, Z. YILMAZ¹

¹Uludaę Üniversitesi, Veteriner Fakültesi, İç Hastalıkları Anabilim Dalı, Bursa

²Uludaę Üniversitesi, Veteriner Fakültesi, Mikrobiyoloji Anabilim Dalı, Bursa

³Uludaę Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

⁴Uludaę Üniversitesi, Veteriner Fakültesi, Cerrahi Anabilim Dalı, Bursa

Özet Bir kedide (8 aylık, melez, kastre edilmemiş, erkek) klinik, patolojik ve mikrobiyolojik muayeneleri temelinde *Mycoplasma sp.* baęlı piyotoraks (torasik empiyem) tanımlandı. Özel bir klinikte diyafram fitkı tanısı konulan ve şiddetli solunum güçlüğü nedeniyle operasyonu ertelenen hasta, benzer şikâyetleri ile iç hastalıkları küçük hayvan kliniğine (Uludaę Üniversitesi, Veteriner Fakültesi, Bursa) sunuldu. Kalp (250 atım/dk) frekansındaki artış dikkate değerdı. Elektrokardiyografi ile taşikardinin sinus orijinli olduęu belirlendi. Toraksın Ultrasonik (US) muayenesinde plöral boşluk içerisinde serbest sıvı tespit edildi. Serbest sıvı anekoike yakın hipoekoik ve içerisinde bol miktarda reflektif ekojenik yapının homojen bir şekilde dağılmış olduęu tespit edildi. Kalbin etrafında perikardiyum içerisinde bol miktarda sıvı ve bu sıvının içerisinde bol miktarda ekojenik karakterde yapılar görüldü (kardiyak tampon). Perikardın kalınlaştığı dikkati çekti. Perikarttan ve plöral boşluktan US rehberliğinde torakosentezle elde edilen sıvının eksudat karakterinde olduęu belirlenerek hemorajik tabiatlı fibrinli piyotoraks ve perikardiyal efüzyon tanısı kondu. Nekropside kedinin göęüs boşluğunun her iki tarafında 50 ml. kadar sarı renkli fibrinopurulent eksudata rastlandı. Fibrinli purulent eksudatın, akcięerdeki kranial ve ventral loblarda daha yoğun olmak üzere her iki taraftaki hemen bütün lobları kapladığı gözlemlendi. Kalınlaşmış perikard kesesi açıldığında kalbin tamamının fibrinli purulent bir eksudat ile kaplı olduęu dikkati çekti. Histopatolojik incelemede akcięerde plöranın baę doku ve yangısal hücre infiltrasyonları ile kalınlaştığı gözlemlendi. Plöranın üzerinin fibrinopurulent bir eksudat ile kaplandığı dikkati çekti. Subplöral bölgedeki alveollerin atelaktatik olduęu görüldü. İntersitisyel bölgede ve alveoller içerisinde mononükleer hücre infiltrasyonları, ödem ve fibrinli eksudata rastlandı. Kalpten alınan kesitlerde epikardın monükleer hücre infiltrasyonları ile kalınlaştığı dikkati çekti. Epikardın üst kısmı plöradakine benzer şekilde fibrinopurulent bir eksudat ile kaplanmıştı. Mikrobiyolojik muayenede, kediden alınan klinik örneklerden ve nekropsi sonrası göęüs boşluğu ve perikarddan alınan örneklerden *Mycoplasma* agarın stereomikroskopta incelenmesi sonucu *Mycoplasma* şüpheli koloniler görüldü. Koloniler 3 kez klonlanarak saf kültür elde edildikten sonra genus düzeyinde identifikasyon için digitonin sensitivitesi ve üreaz aktivitesi testleri yapıldı. Digitonine duyarlı ve üreaz negatif bulunan izolat *Mycoplasma sp.* olarak değerlendirildi. Sonuç olarak, solunum güçlüğü şikâyeti ile klinięi sunulan kedilerde tanı-ayırıcı tanı prosedüründe mycoplasma'ya baęlı piyotoraks oluşumlarının da düşünülmesi gerektięi kanısına varıldı.

Anahtar kelimeler Piyotoraks, kedi, *Mycoplasma sp.*

The case of pyothorax (thoracic empyema) due to *Mycoplasma* sp. in a cat

Abstract Pyothorax due to *Mycoplasma* sp was diagnosed based on the clinical, pathologic and microbiological examination results in a male cat of 8 month-age, cross-breed, not castrated). The cat that was diagnosed hernia diaframatica and postponed the operation by reason of dyspnoea in a private clinic was presented to the clinic of small animal internal medicine (Uludag University, Faculty of Veterinary Medicine, Bursa) with the same complainings. A considerable increase in heart rate was observed (250 bpm). Tachycardia was classified as a sinus origin by electrocardiography. The ultrasound examination of thorax showed free liquid within the pleural cavity. It was determined that the free liquid was closely anechoic but was hipoecoic and inside of it was homogeneously distributed slathers structure of the reflectic echogenic. It was seen many liquid within pericardium and inside of that liquid had a lot of echogenic structures (cardiac tamponade). The pericardium was thickened. The effusion obtained from the cavity of pleura and pericardium by thoracocentesis with the guide of US was classified as exudate, and then fibrinous hemorrhagic pyothorax and pericardial effusion were diagnosed. At postmortem examination, approximately 50 ml. yellow colored fibrinopurulent exudate on both sides of the thoracic cavity was seen. Fibrinopurulent exudate was covered with all pulmonary lobes but it was intensive at cranial and ventral lobes. After thickened pericardium was opened, heart was covered with fibrinopurulent exudate. At the histopathological examination pleura was thickened with connective tissue and inflammatory cell infiltrations. Alveoli in which settled at the subpleural area were atelectatic. Within interstitial area and alveoli were observed fibrinous exudate, edema and mononuclear cell infiltrations. Pericardium was thickened with mononuclear cell infiltrations and fibrin deposition. The dorsal part of epicardium was covered with fibrinopurulent exudation. At the microbiological examination, colonies suspected *Mycoplasma* sp. was determined after clinical, thoracic cavity and pericardial tissue samples collected from the cat were examined by *Mycoplasma* selective agar plates with stereomicroscope. After the colonies were cloned three times to obtain pure culture, for identification at genus level, digitonin sensitivity and urease activation tests were performed. The isolate which was sensitive to digitonin and urease negative was classified as a *Mycoplasma* sp. As a result, in the cat presented to clinic with dyspnoea, pyothorax due to *Mycoplasma* sp. should be kept in mind, during the diagnostic work up.

Keywords Pyothorax, cat, *Mycoplasma* sp.

Bir İnan kedisinde kromozomal bozuklukla birlikte schistosoma reflexum

R.G. ÖZALP¹, S. ÇELİKLER², G. ŞİMŞEK¹, M.Ö. ÖZYİĞİT³, **S. İNAN**³

¹Uludağ Üniversitesi, Veteriner Fakültesi, Doğum ve Jinekoloji Anabilim Dalı, Bursa

²Uludağ Üniversitesi, Fen Edebiyat Fakültesi, Biyoloji Anabilim Dalı, Bursa

³Uludağ Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Bursa

Özet Bu raporda, bir günlük İnan kedisi yavrusunda kromozomal aberasyon (sapma) ile birlikte Schistosoma reflexum olgusu incelendi. Doğum ve Jinekoloji Anabilim Dalına getirilen kedinin ultrason muayenesi sırasında yavruların geliştiği ancak kalp atımlarının zayıf olduğu belirtildi. Yapılan ovariohisterektomi operasyonunda uterustan 3 adet gelişimini tamamlamış ölü kedi yavrusu çıkarıldı. İki dişi yavru, normal anatomik gelişim gösterirken, erkek olan bir tanesinde anomaliye rastlandı ve Schistosoma reflexum tanısı kondu (SR). Dış bakıda, vertabranın torakolumbal bölgede normal hattın sağ tarafına doğru (skolyoz), lumbar ve sakral vertabraların ise dorsokraniyal olarak deviye olduğu (lordoz) dikkati çekti. İnce bağırsakların tamamı, kalın bağırsakların bir kısmı, mide, karaciğer, dalak ve sağ böbreğin, allantoik membranla ilişkili yaklaşık 1 cm'lik abdominal bir yarıktan vücudun dışına çıktığı görüldü. Karın boşluğu açıldığında karaciğerin loplalarının boyutlarının ufak olduğu (hipoplazi), sol böbreğinde diyaframa yapışık olduğu ve atrezia rekti gözlemlendi. Göğüs boşluğu muayenesinde akciğerlerin loplanmalarının normal olduğu ancak kalp ve akciğerlerin hipoplazik olduğu saptandı. Omurgada herhangi bir açıklık gözlenmedi. Kafatası muayenesinde SR'lu kedi yavrusundaki beyin ve beyinciğin diğer yavrulara göre normal olduğu saptandı. İnsan lenfosit kültüründen hazırlanan kromozom preparatlarında, yavru kedide, kromatid ve kromozomlarda kırılmalar, değişken figürler, eşit olmayan çiftleri içeren kromozomal aberasyonlar gözlemlendi. Anneden alınan örnekler ile hazırlanan kromozom preparatlarında bu tür aberasyonlara rastlanmadı. Kedilerde nadir gözlenen schistosoma reflexum olgusunun, fötüsün çevresel teratojenler ya da kalıtsal faktörlerden etkilenen kromozomal mutasyonları ile ilişkili olabileceği düşünüldü.

Anahtar kelimeler Schistosoma reflexum, kedi, kromozomal aberasyon

A case of schistosoma reflexum in a cat with chromosomal aberrations

Abstract In this case, it was reported one day old male Schistosoma reflexum Persian kitten with chromosomal aberration. Well-developed fetuses with weak fetal heart beats were observed in the ultrasonographic examination in Department of Obstetrics and Gynecology (Uludağ University, Faculty of Veterinary Medicine, Bursa). En block ovariohysterectomy was performed. Three dead and mature kittens were obtained from the uterus; two of them were female fetuses and had no anatomical problem but the third one exhibiting multiple malformations was a male and diagnosed as schistosoma reflexum (SR). The vertebral column deviated markedly to the right (scoliosis) at thoracolumbar region, and the middle lumbar and the sacral vertebrae were directed dorsocranially (lordosis). The entire small intestine, a part of large

intestine, stomach, liver, spleen and the right kidney were displayed out of the body, and it seemed that the listed internal organs were protruded from an abdominal cleft, 1 cm in diameter, associated with the allantoic membrane. Liver, lungs and heart were hypoplastic. Left kidney was adherent to diaphragm and the large intestine was seen to have blinded (atresia recti), but anus was normal. When thoracic inlet was opened, lobulation of lung was normal, yet heart and lung were hypoplastic when compare other kitten organs. Cerebrum and cerebellum were noticed as normal in sizes. Chromosome preparations from human lymphocyte cultures of the kitten showed chromosomal aberrations including chromatid and chromosome breaks, exchange figures, non-homologous pairing, where as no abnormalities were detected in the chromosome preparations from mothers cultures. The slides of chromosomal samples taken from mother had no any aberration. The case of SR which is seen rare in cats might be thought to be related with environmental or genetically factors which is effective on chromosomal mutation.

Keywords Schistosoma reflexum, cat, chromosomal aberrations

Hindilerde histomoniazis: Patolojik bulgular ve polimeraz zincir reaksiyonu ile belirlenmesi

M. KARAMAN¹, H. ÖZEN¹, K. ÖZCAN²

¹Kafkas Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kars

²Uşak Üniversitesi, Sivaslı Meslek Yüksekokulu, Uşak

Özet Bu çalışmada, doğal olarak *Histomonas meleagridis* ile enfekte 35 adet hindide şekillenen patolojik bulgular tanımlandı. Dokularda etkenin varlığı periyodik asit Schiff (PAS) boyaması ve polimeraz zincir reaksiyonu (PZR) ile ortaya konuldu. PZR metodunda *H. meleagridis* ribozomal RNA geninin küçük segmentine işaret eden 209 baz çifti bölgesi amplifiye edildi. Hayvanların makroskopik incelenmelerinde; sekumların hiperemik olduğu, duvarlarının kalınlaştığı ve sarımsı kahverenginde nekrozlar içerdiği gözlemlendi. Karaciğerlerde büyüme ve hiperemik bir kuşak ile çevrili değişik büyüklüklerde gri-sarımsı renkte nekroz odakları belirlendi. Böbreklerde farklı büyüklüklerde sarımsı beyaz renkte nekroz alanları tespit edildi. Mikroskopik incelemelerde; sekum, karaciğer, böbrek ve proventrikulusta nekroz ile mononükleer hücre infiltrasyonu ve az sayıda dev hücreleri gözlemlendi. Bursa Fabricius'da ve dalakta lenfoid dokuda azalma belirlendi. PAS ile yapılan boyama sonuçlarına göre sekumda %100, karaciğerde %91,4, böbrekte %17,1, dalakta %11,4, proventrikulusda %5,7 ve bursa Fabricius'da %2,8 oranlarında histomonad trofozoitlerine rastlandı. PZR sonuçlarına göre ise sekumda %100, karaciğerde %100, böbrekte %31,4, dalakta %25,7, akciğerde %17,1, proventrikulusda %11,4 ve bursa Fabricius'da %11,4 oranlarında etken tespit edildi. Sonuç olarak; böbrek, dalak, bursa Fabricius ve proventrikulus gibi genel olarak hastalığın daha az gözlemlendiği organlarda histomoniazis lezyonları tanımlanarak, etkenin organlara göre yayılımının belirlenmesinde PZR metodunun histopatolojik gözlemden daha etkili olduğu sonucuna varıldı.

Anahtar kelimeler Histomonas, polimeraz zincir reaksiyonu, hindi

Histomoniasis in turkeys: Pathological observations and polymerase chain reaction detection

Abstract In this study, pathological findings were described in 35 turkeys that were naturally infected with *Histomonas meleagridis*. The causative agent was detected by periodic acid Schiff (PAS) staining and polymerase chain reaction (PCR). A 209 bp region from the small subunit ribosomal RNA gene of *H. meleagridis* was used for PCR amplification. In gross examination, hyperemia and thickening of the secal wall as well as yellow-brown necrosis were seen. The livers had variably sized grayish-yellow multiple foci of necrotic areas circumscribed by a hyperemic ring. The kidneys contained variably sized multifocal circular yellow to white necrotic areas. In microscopic examination, mononuclear cellular infiltration containing few giant cells was observed in secum, liver, kidney and proventriculus. Lymphoid depletion in bursa of Fabricius and spleen was detected. In PAS staining, histomonad trophozoites were

detected in ceca (100%), livers (91.4%), kidneys (17.1%), spleens (11.4%), proventriculi (5.7%) and bursa of Fabricius (2.8%). With the PCR technique, the agent was determined in ceca (100%), livers (100%), kidneys (31.4%), spleens (25.7%), lungs (17.1%), proventriculi (11.4%) and bursa of Fabricius (11.4%). In conclusion, histomoniasis lesions in less frequently seen organs such as kidney, spleen, bursa of Fabricius and proventriculus were described. It was shown that PCR technique is more sensitive than solely histopathological examination in diagnosis of the causative agent.

Keywords Histomonas, polymerase chain reaction, turkey

Tavuklarda Marek hastalığının patolojik ve immunohistokimyasal yöntemlerle tespiti

H. KELEŞ¹, İ.A. ÖZKUL²

¹*Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar*

²*Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara*

Özet Bu çalışmada 100 adet tavuk hibritinde saptanan doğal Marek hastalığı klinik ve patomorfolojik olarak incelenmiş, bu hayvanların 35'inde immunoperoksidaz yöntemiyle viral antijenler ve bu antijenlerin vücuttaki dağılımı belirlenmiştir. Hasta hayvanlarda pleksüs-nervus ischiadicus lezyonlarına ilişkin klinik bulgulardan; dengesiz yürüme, parez, paraliz ve karakteristik balerin oturuşu dikkati çekti. Hayvanların nekropsilerinde hastalığa özgü makroskobik bulguların yalnızca pleksüs-nervus ischiadicuslarda şekillendiği görüldü. Histopatolojik incelemelerde dalak, b. Fabricius, bezli mide, N. ischiadicus, karaciğer, akciğer, bağırsak, böbrek ve pankreasta hastalığa ilişkin mikroskobik bulgular gözlenirken deri, merkezi sinir sistemi, timus, ovaryum, kalp, iskelet kası, kaslı mide ve adrende patolojik bulgular görülmedi. Otuzbeş hayvanda, immunohistokimyasal incelemelerde, b. Fabricius, dalak, böbrek, karaciğer, pleksüs-nervus ischiadicus, akciğer, deri, bezli mide ve bağırsakta viral antijenler çoğunlukla intrasitoplazmik, kısmen de intranükleolar olarak gözlemlendi. Bursa Fabriciusta folliküllerin hudut hücreleri ile böbrek tubul epitel hücrelerinde diğer doku/organlara kıyasla daha fazla immunpozitif hücre dikkati çekti.

Anahtar kelimeler Tavuk, Marek hastalığı, immunohistokimya

Pathological and immunohistochemical techniques for detection of Marek's disease in the chicken

Abstract In this study, natural Marek's disease which was determined in 100 chickens were examined clinically and pathomorphologically. Viral antigens were detected in 35 chickens and distributions of these antigens in the body were determined by immunoperoxidase method. Clinical findings such as incoordination, paresis, paralysis and leg extension (leg stretched forward and the other backward) associated with lesions in plexus-nervus ischiadicus were observed in chickens. Specific macroscopic lesions associated with the disease were only seen in the plexus-nervus ischiadicus at necropsy. In histopathologic examinations, microscopical lesions associated with the disease were detected in spleen, b. Fabricius, proventriculus, plexusnervus ischiadicus, liver, lung, intestine, kidney and pancreas. No microscopic lesion in the skin, central nervous system, thymus, ovary, heart, skeletal muscle and adren were found. In immunohistochemical examinations, viral antigens were usually seen intracytoplasmic and partially intranuclear at the b. Fabricius, spleen, kidney, liver, plexus-nervus ischiadicus, lung, skin, proventriculus and intestine of the 35 chickens. Compared with

the other tissues/organs significant immunopositive cells were detected at the border cells of follicles of b. Fabricius and tubular epithelial cells of kidney.

Keywords Chicken, Marek's disease, immunohistochemistry

Bir sülünde kondroma olgusu

H. KELEŞ¹, B. YARDIMCI², G. ALÇIĞIR³

¹*Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Afyonkarahisar*

²*Ondokuz Mayıs Üniversitesi, Veteriner Fakültesi, Su Ürünleri ve Hastalıkları Anabilim Dalı, Samsun*

³*Ankara Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Ankara*

Özet Bu çalışmada 1 yaşlı, erkek bir sülünde gaga kenarında yerleşim gösteren kondroma tanımlandı. Cerrahi operasyon ile uzaklaştırılan kitle makroskopik olarak, 1x0,7x0,5 cm boyutlarında, elastik kıvamlı, kesit yüzü boz-beyaz renkte ve lobuler görünümlüydü. %10'luk formalin solüsyonunda tespit edildikten sonra rutin doku takibine alındı. Parafin ile bloklanan dokudan 4-6 µm kalınlığında alınan kesitler Hematoksilen-Eozin ile boyanarak ışık mikroskopunda incelendi. Mikroskopik incelemede, çok sayıda, uniform yapıda, yuvarlak ya da oval şekilli, açık pembe sitoplazmalı, yuvarlak çekirdekli kıkırdak hücreleri görüldü.

Anahtar kelimeler Sülün, kondrom, histopatoloji

A case of chondroma in a pheasant

Abstract In this case, a chondroma was described on border of the beak in an one-year-old male pheasant. Mass removed with surgical resection was measured as 1x0,7x0,5 cm and was elastic consistency, grayish-white and lobulated cut surface, macroscopically. The mass was fixed in 10% buffered formalin and embedded in parafin after routine tissue processing. Tissue sections 4-6 µm in width were stained with haematoxyline-eosin and examined under light microscope. In microscopic examination, uniform, round or oval shaped chondrocytes with round nuclei and pale eosinophilic cytoplasm were observed and the mass was diagnosed as chondroma.

Keywords Pheasant, chondroma, histopathology

Toxoplasma gondii* takizoit ve doku kistlerine in-vitro toltrazuril etkinliđi: Tedaviyi takiben canlılık ve morfolojik deđişikliklerin deđerlendirilmesi

O. KUL¹, A. DENİZ², S. KARAHAN³, K. YILDIZ⁴, H.T. ATMACA¹, A.N. GAZYAĐCI⁴

¹Kırıkkale Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kırıkkale

²Bayer Hayvan Sađlığı, Almanya

³Kırıkkale Üniversitesi, Veteriner Fakültesi, Histoloji Anabilim Dalı, Kırıkkale

⁴Kırıkkale Üniversitesi, Veteriner Fakültesi, Parazitoloji Anabilim Dalı, Kırıkkale

Özet Toltrazurilin hücre kültüründe *Toxoplasma gondii* takizoitleri ve doku kistlerine etkinliğinin deđerlendirilmesinin amaçlandıđı bu çalışmada, toltrazuril kullanımının akut ve subklinik toksoplazmoz enfekte dođan küçük ruminantlarda takizoit ve doku kistlerinin ortadan kaldırılması ya da infektivitesinin azaltılmasına yönelik etkinliđi araştırılmıştır. Çalışmada, 1×10^5 *T.gondii* RH suşu takizoitleri 5×10^4 Vero hücresi içeren kuyucuklara inoküle edildikten sonra; 25 µg/ml, 50 µg/ml toltrazuril eklenen ve tedavi uygulanmayan takizoit enfekte hücreleri içeren kuyucuklar toplam 3 gruba ayrıldı. Toltrazuril uygulamasının 3 üncü ve 6 ıncı günlerinde herbir kuyucuktaki enfekte hücre oranları deđerlendirildi. Takizoit infektivitesinin deđerlendirilmesi için kontrol grubu ve ilaç uygulanan gruplardaki takizoitler; herbir grup için 9 ar fareye inoküle edilerek, hayatta kalma süreleri ve enfeksiyon şiddeti açısından incelendi. İlave olarak, kronik enfekte fare beyinlerinden izole edilen *T.gondii* ME49 suşu doku kistleri, 9 gün 25 µg/ml ve 50 µg/ml toltrazuril uygulamasına maruz bırakıldı ve ilaç uygulanmayan kontrol grubu ile karşılaştırıldı. Herbir gruptaki doku kistleri, 7 şer fareye intraperitoneal olarak inoküle edildi. Farelere 28 gün sonra ötanazi yapılarak beyinlerindeki parazit varlığı patolojik inceleme ve PCR teknikleriyle deđerlendirildi. Sonuç olarak; toltrazuril uygulanan doku kistleri, bioassay yapılan farelerde kontrol grubundakilerine oranla daha az şiddette kronik toksoplazmoza neden oldu. Toltrazuril uygulanan takizoitlerde, 3 ncü ve 6 ıncı günlerde sayısal olarak belirgin düzeyde azalma şekillendi. Toltrazuril uygulamasının 6 ıncı gününde; 25 µg/ml toltrazuril % 62.32, 50 µg/ml toltrazuril ise % 97.72 oranında proliferasyon inhibisyonu sağladı. Sonuç olarak, 25 µg/ml ve 50 µg/ml dozunda toltrazuril hücre kültüründe takizoitlere ve doku kistlerine parazitostatik ve parazitostatik etki gösterdi ve bu etkiyi farelerin organlarında dereceli olarak enfektif evrenin azaldığı ve uzamış hayatta kalma süresiyle kendini gösterdi. In vitro toltrazuril uygulanan doku kistlerinin, fare beyinlerinde doku kisti oluşturma yeteneklerini kaybettikleri de ortaya konuldu.

Anahtar kelimeler *Toxoplasma gondii*, toltrazuril, doku kisti, takizoit, tedavi, in vitro

* Bu çalışma, Bayer Hayvan Sađlığı, Almanya tarafından deneme ve konsept kapsamında desteklenmiştir.

In-vitro efficacy of toltrazuril on *Toxoplasma gondii* tachyzoites and tissue cysts: Evaluation of morphologic changes and viability following therapeutic application*

Abstract In this study, we aimed to evaluate efficacy of toltrazuril on tachyzoites viability *in vitro* and on tissue cysts kept in the cell and tissue cultures. It is questioned that the efficacy of toltrazuril usage in the effective treatment of toxoplasmosis by eliminating tachyzoites and tissue cysts -or at least reducing their infectivity- in small ruminants born infected. 1×10^5 *T.gondii* RH strain tachyzoites were inoculated into wells containing 5×10^4 Vero cells. Three groups were allocated as follows; positive control receiving no treatment, 25 µg/ml or 50 µg/ml toltrazuril added groups. At the 3rd and 6th days of toltrazuril application, each well was evaluated for the ratio of infected cells. To evaluate tachyzoite infectivity, control and treated tachyzoites were inoculated into nine mice of each group and their survival time, infection degree were evaluated. Additionally, cultured *T.gondii* ME49 strain tissue cysts were exposed to 25 µg/ml and 50 µg/ml toltrazuril for nine days and compared to un-treated control. The tissue cysts were then inoculated intraperitoneally into seven mice in each group. Mice were euthanatized 28 days after inoculation and evaluated for presence of parasites in the brain by pathology and PCR. Unlike control mice, toltrazuril treated tissue cysts resulted in less degree of chronic toxoplasmosis in the brain. In toltrazuril applied tachyzoites, a decrease in tachyzoite number was noted in the 3th and 6th days of inoculation. At the 6th day of application the efficacy of 25 µg/ml and 50 µg/ml toltrazuril on tachyzoites was 62.32 % and 97.72 %, respectively. In conclusion, toltrazuril at a dose of 25 µg/ml and 50 µg/ml in cell culture has parasitocidal and parasidostatic effects on tachyzoites and tissue cysts *in vitro* evidenced by prolonged survival time and gradually decreased number of infective stages in organs of the mice. Unlike control mice, mice infected with -toltrazuril treated- tissue cysts had no tissue cysts in the brain.

Keywords *Toxoplasma gondii*, toltrazuril, tissue cysts, tachyzoites, treatment, in vitro

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Keçi ve koyunlarda doğal Peste des Petits Ruminants virüs (PPRV) enfeksiyonunda epitel dokuda sitokin yanıtın immunohistokimyasal teknikle incelenmesi*

H.T. ATMACA, O. KUL

Kırıkkale Üniversitesi, Veteriner Fakültesi, Patoloji Anabilim Dalı, Kırıkkale

Özet Peste des Petits Ruminants (PPR), koyun ve keçilerde eroziv-ülseratif oral lezyonlar, interstisyel pnömoni ve diyare ile seyreden, yüksek mortalite ve morbidite oranıyla ekonomik olarak ciddi kayıplara neden olabilen akut veya subakut seyirli viral bir hastalıktır. Hastalığın ağız mukozası ve akciğer epitel dokularında sekillendirdiği lezyonlarda, sitokinlerin rolüne yönelik daha önceden gerçekleştirilmiş bir araştırmaya rastlanılmamıştır. Bu çalışmada, PPR ilişkili yanak, dil ve akciğerlerde sekillenen epitel lezyonlarında IL-4, IL-10, TNF- α ve IFN- γ sitokin yanıtının immunohistokimyasal olarak incelenmesi ve lezyonsuz kontrol dokuları ile karşılaştırılması amaçlanmıştır. Çalışmanın materyalini, PPR tanısı konulan 11 koyun, 6 keçi ve sağlıklı 5 keçiden alınan yanak mukozası, dil ve akciğer dokuları oluşturdu. Parafine gömülen dokulardan alınan 5 μ m kalınlığındaki kesitler, hematoksilen eozin, gram boyama ve immunoperoksidaz teknikle muayene edildi. Histopatolojik incelemede, ağız ve dil mukozası için lezyonlar şiddetine göre skorlandı. İmmunoperoksidaz testlerde, PPR Tu00 susu kullanılarak tavşanda immunizasyon ile elde edilen rabbit-anti PPRV poliklonal antikoları, sitokin yanıtın araştırılması için ise ticari firmalardan temin edilen rabbit anti-bovine IL-4, IL-10, TNF- α ve IFN- γ antikoları kullanıldı. Histopatolojik lezyonların hafif sekillendiği ve PPRV antijeninin immunohistokimyasal olarak gösterilemediği epitel dokularında sitokin yanıtın kontrol gruplarından farklı olmadığı dikkati çekti. Bu çalışmada, PPRV pozitif hayvanlardaki akciğer, dil ve yanak mukozasında IFN- γ ve TNF-alfa immunopozitif boyanma yüzde alanlar, kontrol grubu hayvanlardakine oranla istatistiksel önemlilik ($p < 0.05$) gösterdi. Her iki sitokin için de ortalamada en yüksek pozitif alan oranı, yanak mukozasında görüldü. Çalışmada kontrol grubu ve PPRV pozitif hayvanlara ait IL-4 ve IL-10 oranları arasında herhangi bir istatistiksel öneme rastlanmadı ($p > 0.05$). Sinsityal hücreler ve alveolar makrofajlarda IFN- γ ve TNF- α ekspresyonu bu çalışmayla ilk defa gösterildi. Sonuç olarak, PPRV ile enfekte dil, yanak mukozası epiteli ve akciğer dokusunda IFN- γ ve TNF- α gibi proinflamatuvar sitokin yanıtın belirgin düzeyde olduğu, PPR ile etkilenmiş epitel dokunun yangı hücrelerine ilave olarak sitokin yanıtta rol alabileceği gösterilmiştir.

Anahtar kelimeler Epitel, IFN-gamma, IL-4, IL-10, immunohistokimya, keçi, koyun, küçük ruminant vebası, Peste des Petits Ruminants, PPR, sitokin, TNF-alpha

*Bu çalışma, Kırıkkale Üniversitesi Sağlık Bilimleri Enstitüsü'nün aynı adlı doktora tezinden özetlenmiştir.

Examination of epithelial tissue cytokine response to natural Peste des Petits Ruminants virus (PPRV) infection in sheep and goats by immunohistochemical technique*

Abstract Peste des Petits Ruminants (PPR) is an acute or subacute viral disease that cause huge economic losses associated with high mortality and morbidity rate in sheep and goats. The resulting pathology included erosive-ulcerative oral lesions, interstitial pneumonia and diarrhoea. Cytokine profiles of oral mucosa and lung epithelia in PPR have not been documented before. In this study, we aimed to study expression of IL-4, IL-10, TNF- α and IFN- γ in tongue, buccal mucosa and lung epithelial tissue using immunoperoxidase technique and to compare with the tissues of healthy control animals. The tissues used in this study were collected from PPR positive 11 sheep and 6 goats and healthy 5 goats. The tissues embedded in paraffin blocks were cut at a thickness of 5 μ m and stained with haematoxylin eosin, gram staining and immunoperoxidase technique. In histopathological examination, the tongue and buccal mucosa lesions were scored. PPR Tu00 isolate was used for immunization of the rabbit to obtain rabbit anti-PPRV polyclonal antibodies for immunoperoxidase tests. Commercial rabbit anti-bovine IL-4, IL-10, TNF- α and IFN- γ antibodies were used for investigation for cytokine response. There was no differences between control tissues and mildly affected tissues by means of cytokine expression. In PPRV positive animals, the lung, tongue and buccal mucosa had statistically significant ($p < 0.05$) higher IFN- γ and TNF- α expression compared to control group. The most intensive expression for both cytokines was seen in the buccal mucosa. There was no significant difference between PPRV positive and control groups for IL-4 and IL-10 expressions. Importantly, presence of IFN- γ and TNF- α expressions in syncytial cells and alveolar macrophages were illustrated for the first time through this study. As a result, the PPRV infected tongue, buccal mucosa and lung tissues have significant IFN- γ and TNF- α expressions, molecules of proinflammatory cytokine response. PPR affected epithelial cells may also play a role in cytokine response in addition to inflammatory cells.

Keywords Cytokine, epithelium, goat, IFN-gamma, IL-4, IL-10, immunohistochemistry, pest of small ruminants, Peste des Petits Ruminants, PPR, sheep, TNF-alfa

*This study was summarized from Kirikkale University Institute of Health Sciences PhD thesis with the same title.

The examination of the effects of electromegnetic fields on heart tissue of rat by using of optical microscope

M. BEHROOZ¹, A. KHAKI²

¹*Student of Veterinary Medicine, Islamic Azad University, Tabriz Branch, Iran*

²*Department of Veterinary Pathology, Islamic Azad University, Tabriz Branch, Iran*

Abstract The modern life condition has caused the human exposed to electromegnetic fields such as Printers, Monitors, and Mobiles continuously which have extended Role in human life and are among the sources of the electromegnetic field generators. Epidemiologic and animal laboratory studies have illustrated the bad effects of electromegnetic fields on biologic systems. Vistar rats with weight of 150-200gr and 5 weeks age were used in this study. rats were divided in to two groups test group and control group with 15 rats in each group. Test group rats were exposed to the electromegnetic field 8 hours a day for 2 months and with the intensity of 1mt. After 2 months the rats were anesthetized by used a cotton smeared with chloroform then the heart tissue was sampled. the samples were put in the %70 buffer formalin and different stages of taking sections was done by hematoocilin-ezonin and trichrom staining in pathogenic laboratory. In microscopic observations there were sever disruptions on tissue so that the nucleus of muscular cells were changed polymorphically and there were some empty spaces around nucleus in test group. Also cytoplasm was unclear and destroyed fibrous tissue and cells involved in necrosis in the form of coagulated necrosis and bleeding. But in control group the whole tissue and its cells were healthy. The results of the current study showed that with consideration to histopathogenic examination such as coagulated necrosis, cytoplasmic vacuolation, cells decrease. the electromegnetic waves cause the apparent changes in heart tissue ($p < 0.05$).

Keywords Heart, rat, electromegnetic fields, optical microscope, hematoxyline-eozine

Pathogenicity and maintainance of Salmonella serovars in broiler chickens as detected by PCR test

M. YOUNUS¹, Z.I. CHAUDHARY¹, M.A. KHAN¹, M. BOULJIHAD³, A.R. SHAKOORI², N. MEHMOOD², M. RAMZAN¹

¹University of Veterinary and Animal Sciences, Lahore, Pakistan

²University of the Punjab, New Campus, Lahore, Pakistan

³College of Veterinary Medicine, University of Minnesota, USA

Abstract The purpose of the present study was to determine of two newly emerging serovars of Salmonella i.e., *S. enteritidis* and *S. typhimurium* through PCR test in broiler chickens. A day old broiler chicks were procured and divided into three groups, while each group contains 100 chicks. Group A and B were inoculated orally with Salmonella enteritidis @ $10^{3.58}$ /ml and *S. typhimurium* @ 10^3 /ml per bird, respectively on 7th day of age. Group C was non infected control. In group A 86.74% of the birds were maintaining the *Salmonella enteritidis* in the large intestine with a mortality rate of 18% during the entire experimental period. None of the samples of small and large intestine of control group (Group-C) and small intestine in groups A and B were found positive for either Salmonella enteritidis or Salmonella typhimurium both. It was concluded that *Salmonella typhimurium* was more pathogenic than *S. enteritidis*. The maintenance of both the Salmonellae is quite favourable for a carrier state leading to the spread of Salmonellosis in the birds and food poisoning in humans.

Keywords Broiler chickens, carrier state, pathogenicity, *Salmonella enteritidis*, *Salmonella typhimurium*

Histopathological and hematological analysis of broiler chickens experimentally infected with pathogenic *Escherichia coli*

Q. NISA¹, M. YOUNUS¹, M. RABBANI²

¹Department of Pathology, University of Veterinary and Animal Sciences, Lahore, Pakistan

²University Diagnostic Laboratory, University of Veterinary and Animal Sciences, Lahore, Pakistan

Abstract *Escherichia coli* infection in avian species has become an economic threat to the poultry industry worldwide. Current study was conducted to observe the ante-mortem, mortality rate; postmortem findings along with histopathological and hematological changes of broiler chickens which were experimentally infected with *E.coli*. A total of 140 day old broiler chicks were randomly divided into four groups i.e. A, B, C and D and were inoculated with the live culture of *E.coli* grown in liquid media. Group A was inoculated through oral route, group B through sub cutaneous route, group C through Intramuscular route whereas group D was kept as none infected/control. At the age of 3 weeks (7 days of post infection), the birds of experimental and control groups were slaughtered to study the hematological parameters along with gross and histopathological lesions in liver, lung, spleen and kidneys. The postmortem changes observed in all the infected groups A, B and C at the age of 21 days (7 days post infection) were liver surface covered with thick fibrinous layer. severe congestion of the lungs was seen. Severe inflammatory reaction and congestion of the liver, lungs, spleen, and kidneys were also noted. There was a significant decrease in hemoglobin concentration, packed cell volume, total erythrocyte count amongst all the infected groups A, B and C at 21 days of age (7 days post infection) as compared to control group D. But the erythrocyte sedimentation rate and total leukocyte count showed a significant increase in all the infected groups, i.e. A, B and C as compared to control group D at the 21 days of age. The main histopathological lesions observed in all the infected groups A, B and C at the age of 21 days (7 days of post infection) in liver, lungs, spleen and kidneys showed necrosis, hemorrhage and leukocyte infiltration. However, in few cases fatty dystrophy, congestion and degenerative changes were also observed. No histopathological lesion could be observed in control group D. From present study it was concluded that colibacillosis caused by experimental *E.coli* infection resulted in severe clinical signs, mortality and pathological and hematological changes especially through intramuscular route as compared to other routes of infection.

Keywords Colibacillosis, avian species, intramuscular, postmortem changes, broiler chickens

Histopathological effect of vitamin E on testis tissue after treatment with fluoxetine in rat

F. HATEFI¹, A. KHAKI², T. JALILI³

¹*Student of Veterinary Medicine, Islamic Azad University, Tabriz Branch, Iran*

²*Department of Veterinary Pathology, Islamic Azad University, Tabriz Branch, Iran*

³*Student of Veterinary Medicine, Islamic Azad University, Tabriz Branch, Iran*

Abstract Fluoxetine is a special selective serotonin reuptake inhibitor. This drug is important in therapy of psychopathy and obsessive disorders, pathology section, depression and nervous hyperorexi. Its side effects on endocrine axis are important too. In this study, the effects of fluoxetine drug on pituitary-gonad axis and spermatogenesis trend and vitamin E effects are examined. This study was done experimentally on 40 male rats from Wistar race. Control group was given normal saline. Fluoxetine group was given 10 mg/kg fluoxetine once a day. Vitamin E group, after taking vitamin E, was given 100 mg/kg vitamin E, once a day. Therapy group was given simultaneously 100 mg/kg vitamin E and 10 mg/kg fluoxetine once a day. All groups received drugs injection Ally (Ip) for 4 weeks (28 days). All groups were bled after 22 days, and their blood was taken for measuring serum concentration of testosterone by radioimmunoassay method. Tissue changes of testis were examined between experimental and control groups. The results were analyzed by ANOVA and panken test. Fluoxetine usage in 10 mg/kg reduces testosterone serum concentration meaningfully than control group ($p < 0.05$). Meaningful difference in testosterone serum concentration in vitamin E receiving group was not observed relative to control group ($p > 0.05$). In spermatogenesis process no meaningful differences were seen between experimental and control group. Fluoxetine taking damages Leydig cells and reduces testis activation and testosterone hormone production, but vitamin E heals the Leydig cells and reduces the fluoxetine caused damages.

Keywords Fluoxetine, testosterone, Leydig, vitamin E, rat

The first case report of diffuse hyperplasia of thyroid (congenital goiter) in goat fetus from clinic of Faculty of Veterinary Science, Islamic Azad University, Garmsar

K. JAMSHIDI¹, R. KAZEMPOOR²

¹*Department of Veterinary Pathology, Faculty of Veterinary Medicine, Islamic Azad University, Garmsar Branch, Garmsar, Iran*

²*Graduate of Veterinary Medicine, Islamic Azad University, Garmsar Branch, Garmsar, Iran*

Abstract Nonneoplastic and noninflammatory enlargement of the thyroid gland develops in all domestic animals, birds, and other submammalian vertebrates. In March 2010 a native female goat which died before clinical examination, because of severe disease, was referred to postmortem hall of the faculty of veterinary science, IAU Garmsar Branch for postmortem examination. While conducting internal examination, two fetuses were evacuated from the uterus of carcass which were significant because of enlarged thyroid glands. In internal examination of fetuses two swollen lobes of thyroid gland with approximate dimensions of 8.5x3.5x3 cm located symmetrically on both sides of the cranial aspect of trachea were observed. The two affected lobes removed from carcass were dark red in color and hard in texture. In histopathological studies, an extensive interfollicular capillary network developed under the influence of long term TSH stimulation. Follicles were irregular in size and shape in hyperplastic goiter because they contained varying amounts of colloid that was highly eosinophilic and vacuolated. Some follicles were collapsed from the lack of colloid. Their lining epithelial cells were columnar and had a deeply eosinophilic cytoplasm and small hyperchromatic nuclei that often were situated in the basilar portion of the cell. The follicles were lined by single or multiple layers of hyperplastic follicular cells, that in some follicles, may form papillary projections into the lumen. On the basis of macroscopic and microscopic findings in thyroid glands of fetuses, the defect was diagnosed as diffuse hyperplastic goiter.

Keywords Diffuse hyperplastic goiter, thyroid, goitrogens, congenital goiter, goat

Effects of diazinon on biochemical parameters and histopathology of brain and liver in rabbits by dermal exposure to toxin

A. SOLATI¹, A. TAVASOLI², M.K. KOOHI³, S.H. MARJANMEHR², O. NEKOUIE⁴

¹*Department of Veterinary Medicine, Islamic Azad University, Saveh Branch, Saveh, Iran*

²*Department of Pathology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

³*Department of Pharmacology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

⁴*Department of Food Hygiene, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Abstract Diazinon is one of the organophosphate pesticides widely used to control pest insects in agriculture and veterinary medicine. Therefore, there is always the risk of human contact with this toxin. The present study was carried out to investigate the toxicopathologic effects of diazinon in male rabbits through dermal exposure. For this purpose, 12 adult male rabbits were divided into two equal groups (N=6), namely treatment and control. The treatment group received diazinon through dermal exposure for 28 days. The control group on the other hand was given ethyl alcohol, as solvent of the diazinon, through the same method. Blood samples were collected from marginal ear vein of the all animals on day 0 and later on days 7th, 14th, 21st, 28th of treatment. The analysis obtained from the data revealed that diazinon affects the biochemical parameters in treatment Group. In fact, diazinon increased ALP, ALT, and AST level ($p<0.01$) and cholesterol level ($p<0.05$) in the serum. Diazinon also significantly decreased triglyceride and total protein level in the serum of the treatment group ($p<0.05$). On day 28 the rabbits were euthanized and necropsy was done. The histopathological changes which observed in the treatment group were necrosis of hepatocytes, fat degeneration and hyperemia in liver .meanwhile necrotizing and hemorrhagic encephalitis, Hemorrhage, hyperemia, meningitis, necrosis of Purkinje cells, and focal gliosis were present in the brain. These results also show that dermal contact with diazinon not only has toxic effects on biochemical parameters but also causes pathologic changes in various body organs.

Keywords Histopathology, biochemical parameters, diazinon, dermal contact, rabbit

Toxicopathologic effects of dermal exposure to diazinon on hematological parameters and in rabbits organs

A. TAVASOLI¹, A.SOLATI¹, M.K. KOOHI², S.H. MARJANMEHR¹, O. NEKOUIE³

¹*Department of Pathology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

²*Department of Pharmacology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

³*Department of Food Hygiene, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Abstract Diazinon [0, O-diethyl O-(2-isopropyl-6-methylpyrimidin-4yl) is an insecticide that belongs to a group of chemicals known as organophosphates. This research based on the toxicopathologic effects of dermal exposure of diazinon on male rabbits. Animals were divided randomly into two equal groups. Each group contains of six rabbits. The treatment group was given diazinon and the control group received ethyl alcohol, as solvent of the diazinon for 28 days. Blood samples were collected from both groups prior to the experiment (days 0,7th, 14th, 21st, and 28th) for hematological studies. The analysis of the obtained data suggests that diazinon has some effects on the hematological parameters of the experimental group. Significant decrease in the hemoglobin (Hb), hematocrit (Hct), and the red blood cell count observed in this group ($p < 0.05$). The rabbits in both groups were euthanized after 28 days for histological studies. The tissues samples from heart, lungs, kidneys, stomach, and testis were fixed in 10% buffered formalin. 5 micron sections were stained in H&E. In treatment group histopathology revealed, hyperemia, emphysema, alveolar epithelialization and interstitial pneumonia in lungs. Other microscopic lesions which observed were tubular necrosis and hyaline cast in kidneys, atrophy and necrosis of muscle fibers in heart, degeneration in testis, and finally partial gastritis in stomach. The results show that diazinon has toxic effects on hematological and parameters and can able to produce pathologic changes in many organs of the body.

Keywords Hematological parameters, biochemical parameters, histopathology, diazinon, dermal contact

Occurrence of mesothelioma in a sheep from Abadan

A. TAVASOLI¹, A. REZAEIE², F. AMINI¹, A. ALISHIRODI³, B. BAGHERI¹

¹*Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

²*Faculty of Veterinary Medicine, University of Shahid Chamran, Ahvaz, Iran*

³*Veterinary Organization of Iran, Branch Abadan, Iran*

Abstract Tumors arising from the serosa are called mesothelioma. Mesothelioma is rare they occur with greatest frequency in cattle and dogs but are occasionally reported in horses, cat, pigs and other species. In human being only not in animals, it has long been associated with inhalation of certain type of asbestos fibers. This case belongs to an approximately 3 year's old ram, which diagnosed in slaughterhouse during meet inspection in Abadan. Grossly, tumor masses appear as multiple discrete nodules whit about 1-2 cm in diameter. These nodules spreading grow on the visceral cavity (peritoneum, omentum and spleen) and also on pleural surface and pericardium. Microscopically tumor showed two different patterns (solid and tubular). Neoplastic cells in tubular pattern were cuboidal with a spherical nucleus and prominent nuclear but in solid pattern tumor cells were polygonal to spherical, mitotic figures were rare. Tumor masses were circumscribed and encapsulated. There are two type of mesothelioma, first the benign localize mesothelioma which grossly consist of dense fibrous tissue, and the second one malignant mesothelioma which has diffuse lesion the spreads widely in the pleural space and visceral cavity. Histochemistry and immunohistochemistry have not been successful uniquely identifying malignant mesothelioma cells in domestic animals.

Keywords Mesothelioma, sheep, Abadan, slaughterhouse, asbestos

An abattoir survey of cholelithiasis in sheep in Iran

A. RAOOFI¹, A.R. SHAHRAKI², A.R. NAMJOO³, H. MOMTAZ⁴

¹*Department of Clinical Sciences, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

²*Student of Islamic Azad University, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

³*Department of Pathology, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

⁴*Department of Microbiology, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

Abstract Cholelithiasis, is the presence of stone in gallbladder or bile ducts. Gallstones can occur anywhere within the biliary tree, including the gallbladder and the common bile duct. In this survey gallbladders of 430 sheep were examined for the presence of stone in Shahre-Kord slaughterhouse. Tissues from affected gallbladders were collected and each sample was divided into two portions. One portion was fixed in 10% neutral buffer formalin for 24 hours. Tissue blocks were processed using standard procedures. Tissue sections were colored with hematoxylin and eosin and examined microscopically. The other portion was placed in sterile plate and was submitted to the bacteriology department for bacterial isolation and identification. Out of 430 gallbladders examined, 7 (1.62%) had gallbladder stones. The stones were detected in 5 ewes and 2 rams. In bacteriological studies *E.coli* (n=2), *Salmonella* (n=1), *Klebsiella* (n= 1) and *Staphylococcus* (n=1) were isolated. Histopathological examination of the gallbladder revealed necrotic changes in epithelial layer associated with mixed inflammatory cells and lymphoid follicles within mucosa. Cystic mucinous hyperplasia and diffuse thickened mucosa were also observed in affected gallbladders.

Keywords Bile ducts, cholelithiasis, gallbladder, sheep, slaughterhouse

Outbreak of Dalmeny disease in a herd of dairy cattle

A.R. MOVASSAGHI¹, G.R. MOHAMMADI², G.R. RAZMI¹

¹*Center of Excellence in Ruminant Abortion and Neonatal Mortality, Department of Pathobiology, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

²*Department of Clinical Sciences, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

Abstract Eosinophilic myositis is a term used to describe an inflammatory condition grossly characterized by focal, green, muscular lesions in clinically healthy cattle. The most frequently affected tissues are striated skeletal muscle, esophagus and heart. Sarcocystis infection has been found in cattle, sheep, horses, and camels. Affected cattle in a dairy herd showed fever, weakness, anemia, loss of the tail switch hair and sudden death of one animal. Necropsy was performed and representative tissues were fixed in 10% neutral buffered formalin, processed by routine methods and stained with haematoxylin and eosin. Gross lesions were primarily in the heart and striated skeletal muscle and were characterized by diffuse stippling and streaking of the myocardium with focal, firm, greenish gray discoloration. There were also severe hydropericardium, pulmonary edema and hemorrhagic foci in the serosal surfaces. Histopathologic examination revealed multifocal to coalescing myocardial edema, necrosis, lymphohistiocytic inflammation, extensive multifocal areas of skeletal muscle fiber degeneration and necrosis, with occasional mineralization, atrophy and fibrosis. There was, in addition, a marked inflammatory infiltrate composed predominantly of eosinophils. Mature tissue cysts within muscle fibers were not found in the myocardium but were occasionally seen in skeletal muscle. Clinical and histopathologic findings were consistent with those described in Dalmeny disease in cattle, which is associated with ingestion of massive numbers of infective *Sarcocystis* oocysts. The exact pathogenic mechanism of eosinophilic myositis is not yet completely understood, but some authors have shown that there may be a relationship between eosinophilic myositis and a type-1 hypersensitivity reaction to sarcocysts.

Keywords Dalmeny disease, dairy cattle, Iran

Case report of gastric ulcer in all inner walls of the stomach of a donkey

A. MAHALLATI¹, M. MAHALLATI², P. ZAMANI¹, M. POORBASIRAT¹

¹*Student of Veterinary Medicine, Islamic Azad University of Shahrekord, Iran*

²*North London Veterinary Clinic, London, UK*

Abstract Gastric ulcer occurs in equines specially horses at all ages, But it is frequently seen in sport and race horses. Many risk factors are available for gastric ulcers like: long periods of hard exercises, anatomical findings of stomach, ration with high concentrate weak management systems, some drugs like NSAIDs, environmental stresses like shipping. In horses, most of ulcers are reported from non-glandular part of stomach. NSAID's ulcers mostly occur in glandular part of stomach because these drugs inhibit synthesis of prostaglandins. In autumn 2009, a donkey referred to veterinary hospital of Islamic Azad University of Shahrekord for necropsy. In gross examination many ulcers in both glandular and non-glandular part of stomach was seen. Glandular part had many ulcers with various size and between 1-2 centimeters longitude. These ulcers accompanied with a broad hemorrhagic areas. Non-glandular part had great ulcers with unshaped, linear or circular borderlines. Next to size and wideness we divided ulcers to 4 degrees; bloody and yellowish fluid accumulated in lumen of small intestine had the mucus membrane of small intestine had congestion and hemorrhage specially in duodenum area. Large intestines and other organs were normal. Lipids around heart and kidneys were atrophied and became gelatinous –like masses. microscopic studies revealed that most ulcers were limited to mucus membrane of stomach. Surface parts of mucus membrane in both glandular and non-glandular side of stomach was necrotized. Around the necrotic area many inflammatory cells specially neutrophils was found. In this area, brownish to black pigments were seen and probably these pigments were result of stomach acid on red blood cells. The only finding from owner was the donkey recently shipped from another area and had anorexia. So the most acceptable reason for these ulcers are environmental stresses and malnutrition.

Keywords Gastric ulcer, equine, ethiology

Antiulcer effect of antioxidants on cysteamine-induced duodenal and gastric ulcer in cholestatic rats

B. REZVANJOO¹, F. MOAYER², A. SOLATI³, B. RADMEHR⁴

¹*Department of Pharmacology, Faculty of Veterinary Medicine, Islamic Azad University-Karaj Branch, Karaj, Iran*

²*Department of Pathology, Faculty of Veterinary Medicine, Islamic Azad University-Karaj Branch, Karaj, Iran*

³*Department of Veterinary Medicine, Islamic Azad University-Saveh Branch, Saveh, Iran*

⁴*Department of Food Hygiene and Quality Control, Faculty of Veterinary Medicine, Islamic Azad University-Karaj Branch, Karaj, Iran*

Abstract The frequency of gastrointestinal ulceration is higher in cholestatic than in healthy population. Melatonin is powerful antioxidant that does not undergo redox cycling. Vitamin C is an antioxidant that undergoes redox cycling. Cysteamine is a most potent agent for inducing gastrointestinal ulcer and its ulcerogenic effect may be due to generation of ROS, and increasing duodenal endothelin-1 concentration. This study was performed on 2 groups of rats: UOC and BDL. Each group was divided into 4 subgroups. These subgroups were treated with saline, cysteamine, vitamin C plus cysteamine and melatonin plus cysteamine respectively. All rats were killed 24 h after the last injection and stomach and duodenum were prepared for calculation of ulcer index (for duodenal ulcer) and j.score (for gastric ulcer). In BDL group, the common bile duct was doubly ligated and after 7 days, rats had shown overt jaundice. BDL group was treated like the UOC group. In UOC group, injection of cysteamine was associated with significant increased in ulcer index and j.score compared with saline group. Injection of vitamin C and melatonin was associated with decrease in ulcer index and j.score compared with cysteamine group. In BDL group injected with cysteamine, duodenal ulcer and j.score were significantly more severe compared with saline group. Injection of vitamin C and melatonin was associated with significant decrease in ulcer index and j.score compared with cysteamine group. Our results suggest that pretreatment with melatonin protect UOC and BDL rats against cysteamine-induced gastroduodenal ulcer possibly by ability to improve oxidative stress.

Keywords Cysteamine, ulcer, cholestasis, melatonin, vitamin C

Histopathological study of royal jelly and omeprazol on peptic ulcer induced by cysteamin hydrochloride in rat

N. RANGSAZ¹, F. SAGHAEI², A. NAMJU³, A. CHAKERI¹, S. KUSHA¹, M. PIRMORADIAN¹

¹*Student of Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

²*Pharmacology Department, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

³*Pathology Department, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

Abstract Royal jelly is one of the honeybee products that produce by hypopharygeal glands of worker bees and has more pharmacological effects. Omeprazol is a proton pump inhibitor that prevention of gastric acid and has proved effect in treatment of peptic ulcer. In this research has been attempted to present the effect of Royal jelly on induced peptic ulcer by Cysteamin and compare with Omeprazol in rat. In order to 42 rats were divided into six groups including (A) control group, (B) treatment group with two doses of cysteamin a (200mg/kg-sc-interval 4 hours) for induction of peptic ulcer after 24 hours unfeeding, (C,D) two groups fed Royal jelly (20&40mg/kg) half hours before injection of first dose of cysteamin and (E,F) two groups fed with Omeprazol (20&30mg/kg) half hours before injection of first dose of cysteamin. Then after 24 hours of first injection of cysteamin rats were killed under ether anesthesia and 5 ml blood were drawn from the heart ventricle into a syringe containing EDTA for separating the plasma; then the stomachs and duodenum were prepared for histological experiments. There was significant difference in superoxid dismutase (SOD) concentration between (B) and (A) group but there was no significant difference in SOD concentration between (D&F) groups with (A) group. This result indicated that Royal jelly and Omeprazol have antioxidant effects. Also pretreatment with Royal jelly and Omeprazol reduced cysteamin induced peptic ulcer.

Keywords Royal jelly, omeprazol, cysteamin, peptic ulcer, rat

Pathological survey of mycoad in hepatic lesions induced with aflatoxin in broiler chickens

N. RANGSAZ¹, M.G. AHANGARAN²

¹*Student of Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

²*Department of Poultry Diseases, Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord Branch, Shahrekord, Iran*

Abstract Aflatoxins is a secondary metabolite of many fungi that are most important economically in poultry industry throughout the world. *Aspergillus parasiticus* is the most prevalent and *Aspergillus flavus* produces most amount of toxin. By attention to high mortality due to aflatoxicosis in poultry, utilization of effective compounds that prevent this toxicity is very important. Intoxication with aflatoxin impressed different effects on various organs that lesions due to aflatoxin in liver, is most prominent. In this study we attempted to investigate hepatic destruction with microscopic view. In this study, 300 broiler chicks were divided into 4 groups with 3 replicates. Group 1 as negative control used common diet and group 2 used common diet plus 1 ppm productive aflatoxin, group 3 received 1 ppm aflatoxin plus 25 gr/kg diet mycoad and group 4 fed basal diet and 25 gr/kg diet mycoad. After 28 days, liver samples were taken and examined histopathologically. Results showed that aflatoxin in liver induced lesions such as hyperemia, necrosis and atrophy of hepatocytes, focal and disseminated haemorrhage and chemotaxis of macrophages in surrounding of portal vein. Mycoad demonstrated that can be effective on hepatic lesions significantly.

Keywords Broiler chicken, mycoad, liver, pathology, aflatoxicosis

Histopathological evaluations of ureter and kidney after experimental ureteral anastomosis in dog

F.S. AFSHAR, S. ESMAIELZADEH, Y. MAZAHERI, A. RAMAZANI, H. ALEMOHAMMAD

Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran

Abstract The aim of this study was to evaluate histomorphological changes of ureter and kidney following experimental ureteral anastomosis. Five healthy mongrel dogs weighing between 15-30 kg were used. Anesthesia was induced by thiopental sodium (10 mg/kg) and maintained by halothane in oxygen (1-1.5 %) in a closed circuit. After midline celiotomy, left ureter near trigon area was incised and immediately end to end anastomosis was performed in simple interrupted pattern by using polydioxanon 6/0. All animals were euthanized at day 90 after operation and the ureters and their related kidneys were evaluated both macroscopically and microscopically. The gross observations of the ureters showed obstruction (one case) and hydroureter (three cases). Microscopically, hyperplasia (in epithelial and muscularis layers), fibrosis (lamina propria-submucosa and serosal layers) and different phases of inflammation and repair (lamina propria-submucosa, muscularis and serosal layers) were observed in the ureters. Histological sections in the related kidneys revealed hydronephrosis and chronic interstitial nephritis in one and two cases, respectively. Although ureteral anastomosis is technically difficult in small animals and has a high rate of postoperative obstruction, but in case of transected or damaged ureter, ureteral reanastomosis is one of the most important options for veterinary surgeons. In the present study in spite of some complications, the anastomosis has been performed successfully in 80 percent of animals and certainly meticulous surgery is mandatory to prevent ureteral obstruction.

Keywords Ureteral anastomosis, histopathology, ureter, kidney, dog

Abattoir survey on frequency of types of abomasal ulcers in buffalos in Ahvaz

A. GHADRAN-MASHHADI¹, S. ESMAEILZADEH², M. GANDOMI³

¹*Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran*

²*Department of Pathobiology, Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran*

³*Graduate from the Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran*

Abstract Abomasal ulcer is a digestive disorder of all domestic ruminants. It affects ruminants of all age groups. There are several forms of ulcers which produce different clinical signs. According to Whitlock, abomasal ulcers can be divided into four types. Although, the disease has most often been studied in cattle, it seems the similarity between rations of cattle and buffalo in Ahvaz can cause the disease in buffalo. For the determination of prevalence of this lesion, abomasums of 200 buffaloes were examined grossly and in some cases, histopathologically. The data were subjected to analysis of variance and Student's test. One hundred and twenty seven of examined abomasa (63.5%) had ulcerative lesions. All ulcers (except in 2 cases) were classified as type 1. This type of lesions was sub-classified to 1a, 1b, 1c and 1d, based on severity as described by Braun et al (1991). Eighty six abomasa (43%) had minimal mucosal defects which were subclassified as type 1a. Deeper injuries, type 1b, were observed in 62 (31%) abomasa. Type 1c and 1d were seen in 19 (9.5%) and 18 (9%) of abomasa, respectively. The most of abomasa had several kinds of ulcers. Types 1a and 1b occurred mainly in the pyloric region, but type 1d was observed mainly in the fundic region. The frequency of type 1c ulcer was the same in the both regions. There were no significant differences between frequency of abomasal ulcer, gender and age of affected animals. This study shows the prevalence of abomasal ulcer in buffalo in compare to cattle is high.

Keywords Buffalo, abomasum, ulcer, Ahvaz, abattoir

Study of short-term repeated fasting effects on experimental peptic ulcer induced by hydrochloric acid in mice

M. MALEKI¹, M. BOROUMAND², A. AFKHAMI GOLI³

¹*Department of Pathobiology, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

²*Graduated DVM student*

³*Department of Basic Science, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

Abstract It has been shown that caloric restriction has beneficial effects on different diseases. Herein, we assessed the probable effects of short-term repeated fasting on peptic ulcer induced by HCl in mice. Forty female mice were randomly divided into 2 groups. 20 mice as test and 20 mice as control. Mice in test group were subjected to a 4 steps of 4 days (with 10 day intervals) of diet restriction. Then 0.3, 0.6 and 0.9 cc of HCl (0.6N) were administrated intragastrically on both control and test groups. The macroscopic and microscopic comparison between the test and control mice showed less severe gastric damage, hemorrhage and a lower score in mice of test group. There was significant difference between mice that received 0.3 and 0.6 cc of HCl. It seems that caloric restriction can modify the harmful effects of HCl on gastric mucosa and could reduce the progression of the gastric ulcer.

Keywords Fasting, hydrochloric acid , peptic ulcer, mice

Pathological study of prevalence intestinal coccidiosis in a flock of kids in Iran

A. NAMJOO¹, A. KHODABAKHSH SARBANDI², H. SHOJAE², A. BADAHSH²

¹*Pathology Department, Islamic Azad University, Shahrekord-Branch, Shahrekord, Iran*

²*Student of Faculty of Veterinary Medicine, Islamic Azad University, Shahrekord-Branch, Shahrekord, Iran*

Abstract Coccidiosis is a contagious protozoal disease that can be a severe problem in kids. In this study, a total number of 90 kids in a farm, 30 kids with age range of 20 days to 45 days old with history diarrhea containing mucus and blood, weakness, dehydration, loss of appetite were referred to veterinary clinic of Islamic Azad university of Shahrekord in spring of 2010. At necropsy, gross lesions were observed mostly in the abomasums, jejunum, ileum and cecum and spiral colon. Ten cases had marked lesions including severe hemorrhagic abomasums and a few scattered whitish pedunculated nodules on the mucosa of the one third primary of jejunum, twenty cases marked lesions including numerous small whitish pedunculated nodules on the mucosa of the two third of distal jejunum, ileum and spiral colon. Microscopically, lesions in moderate and severe were characterized by necrosis of epithelium, hyperemia. In severe cases, the epithelial cells of hyperplastic crypts and this proliferation produces and adenomatous mucosal surface. The giant schizonts were easily identified in 25 cases. There was no histological evidence of presence of life cycle of *Eimeria* in the duodenum, distal colon, rectum and mesenteric lymph nodes. This study showed that most common lesions were in the jejunum, ileum and colon. Identification of the coccidian observation of gross and histopathologic lesions at necropsy is essential for an accurate diagnosis of the disease.

Keywords Coccidiosis, kids, necropsy, histopathology, hyperplasia, gut

Cutaneous sarcoidosis in Caspian miniature horse

S. OZMAIE¹, I.S. HAGHDOOST², M. SAKHA¹, A. JAHANDIDEH³, P. MORTAZAVI², H.R. FATTAHIAN³

¹*Department of Large Animal Clinical Science, Faculty of Specialized Veterinary Science, Islamic Azad University, Research and Science Campus, Tehran, Iran*

²*Department of Pathology, Faculty of Specialized Veterinary Science, Islamic Azad University, Research and Science Campus, Tehran, Iran*

³*Department of Surgery, Faculty of Specialized Veterinary Science, Islamic Azad University, Research and Science Campus, Tehran, Iran*

Abstract This case report describes a cutaneous sarcoidosis in a 8-year-old horse. A horse developed one cutaneous nodule (2 cm in perineal region). The perineal region. The lesion was sampled by biopsy and submitted for histopathological examination and diagnosed as a cutaneous sarcoidosis. An eight-year-old, stallion male Caspian miniature horse was presented to the Veterinary Teaching Hospital of Shahriar, Islamic Azad University, for evaluation of mass in the perineal region. The lesion was gray plaque involving the inner surface of the pinna. The horse had no clinical systemic signs other than the affected skin on the perinea. The stallion had been purchased by the client 1 year before while he was paddock mated to one mare. For histological examination, tissues were fixed in 10% neutral buffered formalin and embedded in paraffin. Sections (4 µm) were stained with haematoxylin and eosin and examined by light microscopy Several cutaneous biopsies were taken and submitted to the pathology laboratory in where a diagnosis of benign sarcoid was made. Prior to surgery treatment, patient was given 1.1 mg/kg flunixin meglumine intravenously and sedated with 0.5 to 1.0 mg/kg xylazine and 0.05 to 0.1 mg/kg intravenous butorphanol. The tumour site was clipped, aseptically prepared, and infiltrated with 2% lidocaine. Using sterile technique, 20 gauge needles were preplaced in parallel (0.5 cm apart) to provide uniform distribution of 5-fluorouracil within the tumour and for a 1 cm zone in circumference and depth around the entire sarcoid. Upon re-examination 6 months after surgery, the site had healed well.

Keywords Horse, Caspian miniature, cutaneous sarcoid

Experimental study of aluminium injection site reactions in white rabbits

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract The aim of this study was to alert pathologists to the spectrum of histological appearances that may be seen in injection site reactions related to aluminium. Fifteen cases (healthy white rabbits) of aluminium injection site reaction were examined microscopically using routine staining with haematoxylin and eosin, electron microscopy and by electron probe microanalysis. As in previous reports, all fifteen cases included collections of histiocytes which contained faint granular brownish refractile material within their cytoplasm; ultra structural examination showed this to be Aluminium. Six cases showed a prominent inflammatory reaction with numerous lymphoid follicles and a notable eosinophilic infiltrate. Nine cases showed unusual features not described previously. In three cases of these nine cases, there was a sclerosing lipogranuloma-like reaction with unlined cystic spaces containing crystalline material. The other cases presented as a large symptomatic subcutaneous swelling which microscopically showed diffuse and widespread involvement of the sub cutis by a lymphoid infiltrate with prominent lymphoid follicles. This report highlights the changes encountered in Aluminium injection site reactions and emphasises that the lesions have a wider range of histological appearances than described previously.

Keywords Aluminium, injection site reactions, lymphoid follicles, inflammatory reaction, rabbit

Concurrent fatal helminthosis and balantidiosis in red monkey (*Erythrocebus patas*) in Boukan (W.Azarbaijan-Iran)

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran

²Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran

Abstract A moribund red monkey (*Erythrocebus patas*) with a history of dysentery was referred. Its fresh fecal specimen was examined. Ova of *Trichuris* spp., *Enterobius* spp., *Ancylostoma* spp. and *Strongyloides* spp. as well as *Balantidium* spp. oocysts were found. Postmortem findings revealed the large intestine heavily infected with worms especially *Trichuris* spp., *Ancylostoma* spp. and *Trichostrongylus* spp. which were enmeshed in a thick layer of mucous and blood on the mucosa. The histopathology confirm the thickness of intestinal mucosa and several sections of parasites. The public health importance is discussed.

Keywords Balantidiosis, helminthosis, dysentery, fecal specimen, red monkey

The effect of *Astragalus fasciculifolius* resin aqueous extract on wound healing in hamster

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran

²Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran

Abstract In ancient Iranian medical texts such as AVICENNA (*The Canon of Medicine*) many herbal preparations are suggested for wound healing. In this experimental study, (*Astragalus fasciculifolius*) resin is evaluated histopathologically. The resins of the plant were collected and aqueous extract of the resin was made. The study was carried out on 15 male hamsters. After surgical preparation and general anesthesia, a circular wound was created on either side of each rat by a 7 mm skin punch (total of 30 uniform skin wounds). The wounds were randomly assigned into 3 groups of 10 wounds. The wounds of group one and two were daily rinsed with normal saline whereas the wounds of group 3 were left untreated. In group one (*treatment group*); following daily rinsing with normal saline, the extract was applied on the wound. The wounds were biopsied on day 14 for histopathologic study (*H & E staining*). Complete re-epithelialization of the wound with severe granulation tissue and scab formation was evident in all (100%) wounds of group one. In group 2 only 3 (30%) wounds showed complete re-epithelialization and a massive granulation tissue could be seen. In group 3, no re-epithelialization could be seen. Actually we have no idea how and why this extract plays its role in wound healing. Some analytical studies should be performed to elucidate which gradient is more effective. The only conclusion we can make is that some of the ancient remedies are valuable provided that they are evaluated ethically and scientifically.

Keywords *Astragalus fasciculifolius*, wound healing, re-epithelialization, massive granulation, hamster

Iatrogenic compressive lumbar myelopathy and radiculopathy in adult cattle following injection of an adjuvanted bacterin into loin muscle: Histopathology and ultrastructure

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran

²Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran

Abstract Compressive lumbar myelopathy is a recognized iatrogenic complication of injecting water-in-oil vaccines into paravertebral sites of laboratory animals and chickens. Herein, we report the histologic and ultrastructural features of a similar complication in a herd of cattle. Iatrogenic posterior paresis developed over 34 days in 56 of 610 cows (9.2%) following injection of a commercial bacterin 11-34 days earlier into *M.longissimus lumborum*. The bacterin was composed of inactivated *Escherichia coli* and *Campylobacter fetus* ssp. *venerealis* in a proprietary adjuvant. Tissues were collected for histopathology from 9 affected cattle that died or were euthanized after clinical signs lasting 6-38 days. A range of tissues, including the injection site lesion and lumbar spinal nerve roots, was obtained for ultrastructural examination from a cow with paresis of 31 days duration. There was locally extensive pyogranulomatous myositis with fibrosis and necrosis in right *M.longissimus lumborum*. Extension of the lesion into the vertebral canal via spinal nerve foramina resulted in focal pyogranulomatous inflammation in epidural fat and in adjacent dura mater. There was axonal degeneration in dorsal, lateral, and ventral columns and chromatolysis of spinal motor neurons in lumbar spinal cord, secondary to compression. A distinctive histologic and ultrastructural feature of pyogranulomata was the presence of osmiophilic material at the center of inflammatory foci, surrounded by macrophages and giant cells that contained intracytoplasmic lipid droplets. Ultrastructural examination of entrapped spinal nerves revealed axonal degeneration and loss of myelinated and unmyelinated fibers, segmental demyelination with remyelination, axonal spheroid formation, and early axonal regeneration. Two cattle also had bilaterally symmetrical acute myodegeneration with arcoplasmic mineralization and secondary histiocytic myositis in axial and appendicular muscles, probably due to prolonged recumbency and vascular compromise (downer cow myopathy). Paresis probably developed as the result of the combination of a paravertebral injection site and the florid granulomatous response elicited by a constituent in the vaccine, most likely the water-in-oil adjuvant.

Keywords Myelopathy, radiculopathy, cattle, histopathology, bacterin

Histomorphological analysis of mouse testes following gestational and lactational alcohol exposure

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract The effect of maternal alcohol consumption during gestation and lactation on the morphology of the testes of offspring was studied using 180 male mice. The 180 mice were offspring of a breeding stock comprising 36 female and 18 male mice. The 36 female mice were divided into 3 groups of 12 each. The offspring of group 1 served as control while those of groups 2 and 3 were exposed to 30% ethanol (v/v) prenatally and pre-and postnatally respectively. At 1, 2,3,4,5 and 6 weeks of age, 10 male offspring were randomly selected from groups 1, 2 and 3 and sacrificed. Following sacrifice, the testes were carefully dissected out. Determination of the weights of the testes showed that the testis of controls weighed significantly heavier than those of the alcohol exposed groups. Histologically, seminiferous tubular diameter of controls was larger than those of the alcohol exposed groups. There was also delay in the development of spermatogenic cells in the testes of those exposed to alcohol.

Keywords Mouse testes, spermatogenic cells, seminiferous tubules, histomorphology, alcohol exposure

Ultrastructure of Ito cells in fibrotic liver diseases

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract Authors have studied the ultrastructure of Ito-cells in 36 liver samples have been collected from slaughter-house. In 3 samples no alteration was found, in 4 only moderate steatosis occurred without fibrosis. In 4 samples portal, in 10 centrilobular and in 5 periportal fibrosis was detected, while in 5 samples cirrhosis was pointed out. In the intact liver, Ito-cells occur not only in the spaces of Disse but also in the wall of the central vein. In portal fibrosis Ito-cells were similar in location and structure to those in the non-fibrotic liver. In centrilobular and periportal fibroses as well as in cirrhosis Ito-cells in the fibrotic parenchyma areas were either localized in the accumulated connective tissue or at the border of connective tissue and hepatocytes. These interstitial Ito-cells contained small amount of lipid, abundant dilated rough endoplasmic reticulum filled with a flocculent material, well-developed Golgi-complex and often bundles of 5 nm thick filaments with dense territories. Close to the Ito-cells immature collagen-fibrils and basement membrane-fragments were seen. A close relationship was pointed out between activated Ito-cells and lymphocytes. In parenchyma areas away from fibrotic foci the structure of Ito-cells was comparable to that of Ito-cells in intact hepatic lobules. Observations suggest that Ito-cells are related to fibroblasts and myofibroblasts and play a role in the pathogenesis of fibrosis occurring in liver diseases.

Keywords Ito cells, fibroblast, fibrotic liver diseases, hepatocytes, ultrastructure

A rhabdomyoma within a multilocular thymic cyst in a P53-null mouse

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract A 7-month-old null female mouse was referred. It was found dead in its cage. At necropsy, a large thymic mass encompassed the heart. Microscopically, the mass was composed of numerous varying-sized cysts lined with simple squamous epithelial cells to columnar ciliated cells. Also present within this mass was a large aggregate of loosely arranged fusiform-shaped cells. These cells also were found in smaller numbers in the connective tissue surrounding the cysts. The larger aggregate of fusiform cells was positive for desmin and S-100 and negative for smooth muscle actin. Electron microscopy revealed well-formed Z lines and I bands of skeletal muscle phenotype. A diagnosis of rhabdomyoma within a congenital multilocular thymic cyst was made. The thymus contains a small population of myoid cells, which should be taken in consideration when evaluating thymic tumors.

Keywords Rhabdomyoma, desmin, actin, thymic cyst, P53-null mouse

Congenital hepatic fibrosis in 5 dogs

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract Congenital hepatic fibrosis is a disorder of biliary system development histologically characterized by diffuse periportal to bridging fibrosis with numerous small often-irregular bile ducts and reduction in the number of portal vein branches. This article describes 5 dead puppy cases of a ductal plate malformation in dogs consistent with congenital hepatic fibrosis. The condition results from abnormal development of the ductal plate, the embryonic precursor to the interlobular bile ducts. It has rarely been reported in veterinary species, and it has never been reported in dogs. On light microscopy, all 5 livers had severe bridging fibrosis with a marked increase in the number of small bile ducts, which often had irregular, dilated profiles reminiscent of the developing ductal plate. In addition, 80% (4 of 5) of cases lacked typical portal vein profiles. Cytokeratin 7 and proliferating cell nuclear antigen immunohistochemistry was performed on the 3 cases for which paraffin-embedded tissue was available. The bile duct profiles were strongly positive for cytokeratin 7 in all 3 cases, and they were negative for proliferating cell nuclear antigen or only had rare positive cells. All 5 dogs showed clinical signs of portal hypertension before death. Congenital hepatic fibrosis should be considered in the differential diagnosis in young dogs that present with portal hypertension and lesions that may have been interpreted as bridging biliary hyperplasia or extrahepatic biliary obstruction.

Keywords Fibrosis, biliary hyperplasia, cytokeratin, puppy, immunohistochemistry

Histopathological effects of soldering fumes on respiratory tract epithelium in rabbit

S.G. DEHBOKRI¹, S. SAEEDIANI²

¹*Islamic Azad University-Science & Research Campus of Tehran, Faculty of Specialized Veterinary Sciences, Veterinary Pathology Department, Iran*

²*Islamic Azad University-Sanandaj Branch, Faculty of Veterinary Medicine, Student of Veterinary Laboratory Sciences, Iran*

Abstract Fumes generating during soldering process are a group of metal vapors and gases such as tin, lead and formaldehyde which are one of the main reasons for lung diseases in solders. Respiratory epithelium in trachea is the first biological barrier which responds to these fumes. The aim of this study was to identify the quantitative effects of these fumes in respiratory epithelium of rabbits. A total number of 48 adult male white rabbits were randomly divided into experimental (n=30) and control (n=18) groups. Each group was subdivided into 2, 4 and 6-week subgroups based on the time of tissue sampling. After adaptation to standard situation in animal house, rabbits in experimental group were exposed to soldering fumes for 1 hour in exposure chamber (0.83 m³). Air sampling from the exposure chamber was done daily with two different methods. According to the schedule, tissue specimens were taken from trachea in deep anesthesia. After processing, all samples were sectioned and stained and the thickness of the respiratory epithelium of trachea was measured under light microscopy. There was a significant difference between all of control and experimental subgroups (p<0.000). There was also a significant difference between experimental groups of 6-week subgroup with 2-week subgroup (p<0.001). The amount of the formaldehyde, tin (Sn) and lead (Pb) in gas exposure chamber was 0.193 mg/m³, 0.35 mg/m³ and 3 mg/m³ respectively. It seems that the respiratory epithelium of the trachea responds to the soldering fumes and the changes in epithelial thickness are time dependent.

Keywords Soldering fumes, respiratory epithelium, histopathology, formaldehyde, rabbit

Histometrical study of Brunner's glands in Iranian Lori-Bakhtiari sheep

A.A. MOHAMMADPOUR¹, I. KARIMI², S.M. HOSSEINI³

¹*Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

²*Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran*

³*Graduated student, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran*

Abstract Duodenal glands, also known as Brunner's glands, exist in all mammalian species. These glands, which in general produce a mucous secretion are located in the submucosa of the proximal duodenum. The study was aimed to demonstrate the distribution, morphological and histological properties of Brunner's glands in the small intestine of the Lori-Bakhtiari sheep. Thirty specimens of duodenum of Lori-Bakhtiari sheep from abattoir were collected. The specimens were selected from male healthy sheep and aged 2 years. After collecting them and determining of three parts of duodenum (cranial, descending and ascending parts), the lengths of them were measured. For histological studies, each part of duodenum divided to two centimeter pieces and then tissue prepared. In each piece of duodenum, Brunner's glands in tunica submucosa were measured using micrometer method. All of parameters between three parts of duodenum were analysed and compared using ANOVA test. In results, normal mean length of duodenum in Lori-Bakhtiari sheep 72.50 ± 12.81 cm was determined. Normal mean length of three parts of duodenum, cranial, descending and ascending 12.05 ± 2.13 cm, 26.51 ± 4.69 cm and 33.74 ± 5.97 cm were determined respectively. As a conclusion, there was significant difference in thickness of Brunner's glands in three parts of duodenum and decreased from cranial to ascending part ($P < 0.001$). It decreases from $574.00 \pm 67.7 \mu\text{m}$ to $313.57 \pm 51.2 \mu\text{m}$, respectively

Keywords Histometry, Brunner's glands, Lori-Bakhtirai sheep