

Davis-Thompson Foundation C.L. DAVIS/S.W. THOMPSON DVM FOUNDATION

A tax-exempt, donative, publicly-supported charity For the advancemet of veterinary and comparative pathology

THE DAVIS-THOMPSON FOUNDATION NEWSLETTER

December 2022

VOL. 52





INSIDE THIS ISSUE

Monthly cover photograph winners: Javier Asin, DVM, PhD, Dipl ECVP Akinyi C. Nyaoke, BVM, PhD

Institution: California Animal Health and Food Safety Laboratory, San Bernardino lab, University of California-Davis

Morphologic diagnosis: Multifocal to coalescing pancreatic necrosis Cause: Highly pathogenic avian influenza virus (HPAIV) H5N1

HPAIV H5N1 is spreading accross multiple geographical locations and affecting a broad variety of avian species. These images from two different waterfowl species represent different degrees of tissue necrosis in the pancreas, which is one of the main targets of this virus.

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MESSAGE FROM THE CEO

Dear Colleagues

Welcome to the December issue of the Davis-Thompson Foundation's Newsletter, with the compliments of our outstanding Managing Editors, Javier Asin and Jeann Leal.

As usual, November was full of great training opportunities, including, amongst many others, the full-day DTF-ACVP Pre-Meeting Workshop in Boston, on Tumors of bone, cartilage and dental tissue, brilliantly delivered by Drs. Keren Dittmer, Rob Foster and Cindy Bell, under the expert coordination of Jennifer Chapman, and attended by 150 trainees and pathologists from all over the world.

During the ACVP meeting, the Foundation also hosted, this year face to face for the first time since the beginning of the pandemic, its traditional Award Ceremony. During this Ceremony, we honored some of our members who have provided outstanding services to the Foundation and the world pathology community. Please join me in congratulating all our awardees, including Bruce Williams (John King Award), Patty Pesavento (Bruce Williams Award), Francisco Carvallo (Barbara Jean Thompson Award), Anne Ching-Nga Tse and Carlton Park-Man Yuen (Best Diagnostic Exercise Award) and Irene Rodríguez-Gómez (Journal Award). In addition, trainees from many institutions from around the world received the Student Scholarship Award. Please peruse these pages to see details of all these awards.

Also in this issue, you will find the reviews of all these activities and details of the training opportunities coming up in December and early next year, including the Descriptive Veterinary Pathology Course in Brazil, Necropsy Course, LCPG Histopathology rounds and much more.

Happy holiday season!

Francisco (Paco) Uzal Chief Executive Officer Davis-Thompson Foundation



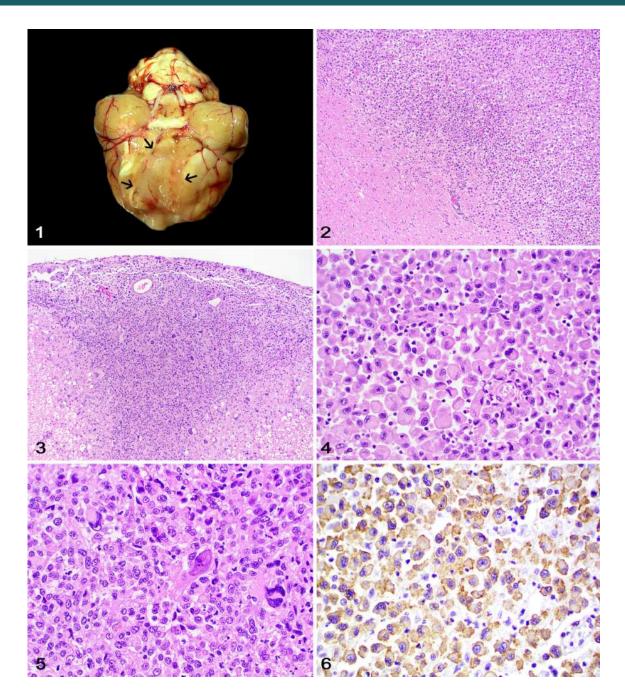
JVDI IN FOCUS

This month's focus is an article in JVDI's upcoming January issue, **"Histiocytic sarcoma with central nervous system involvement in 6 cats"** by Jesse Riker, Lorelei L. Clarke, Elena A. Demeter, Andrew D. Miller, Elizabeth W. Howerth, Doris M. Miller, Daniel R. Rissi.

J Vet Diagn Invest 2023;35(1). https://journals.sagepub.com/doi/full/10.1177/10406387221136849

Abstract. Here we characterize 6 cases (4 autopsies and 2 biopsies) of histiocytic sarcoma in the CNS of cats. All affected cats had chronic, progressive clinical signs. Three autopsied cats were euthanized because of a poor prognosis, and one died. The clinical outcome for the biopsy cases remains unknown. Tumors occurred in the brain (4 cases), spinal cord (1 case), and brain and spinal cord (1 case). Neoplasms were restricted to the CNS in 3 cases. Reported gross changes in the 4 autopsy cases consisted of neuroparenchymal swelling with or without tissue pallor or gray discoloration (2 cases) and a yellow or dark-gray mass (2 cases). Histologically, pleomorphic, round-to-elongate neoplastic cells with typical histiocytic morphology effaced the neuroparenchyma and leptomeninges. Multinucleate neoplastic cells were observed in all cases. The mitotic count was 1–24 in 2.37 mm2 (10 FN22 40× fields). Neoplastic cells in all cases had positive immunolabeling for Iba1; immunolabeling was negative for E-cadherin, CD3, CD79, and MUM1, confirming their histiocytic origin.

JVDI IN FOCUS



Figures 1–6. Histiocytic sarcoma with central nervous system involvement in cats. Figure 1. A neoplastic mass (arrows) effaces and expands the ventral aspect of the olfactory bulbs, case 3. Figure 2. Neoplastic cells infiltrate and efface the telencephalic neuroparenchyma, case 1. H&E. Figure 3. Neoplastic cells infiltrate and expand the perivascular spaces within the dorsal aspect of the cervical spinal cord, case 2. Many neoplastic cells have large nuclei or are multinucleate. H&E. Figure 4. Round neoplastic cells with moderate pleomorphism form sheets within the telencephalic neuroparenchyma, case 1. H&E. Figure 5. Polygonal-to-elongate neoplastic cells with moderate-to-marked pleomorphism and multiple nuclei infiltrate the spinal white matter, case 2. H&E. Figure 6. Neoplastic cells with widespread membranous immunolabeling for Iba1.



JOHN M. KING AWARD FOR OUTSTANDING LIFETIME DEDICATION TO VETERINARY PATHOLOGY EDUCATION

BRUCE WILLIAMS

THE JOINT PATHOLOGY CENTER



BARBARA JEAN THOMPSON SERVICE AWARD

FRANCISCO CARVALLO CHAIGNEAU

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY



BRUCE WILLIAMS AWARD FOR SUSTAINED AND EXEMPLARY SERVICE TO THE FOUNDATION AND ITS FACULTY OF DISCUSSANTS

PATRICIA A. PESAVENTO

UNIVERSITY OF CALIFORNIA- DAVIS



BEST DIAGNOSTIC EXERCISE

ANNE CHING-NGA TSE WITH CARLTON PAK-MAN YUEN

HONG KONG GOVERNMENT'S VETERINARY LABORATORY



IRENE M. RODRÍGUEZ-GÓMEZ

UNIVERSIDAD DE CÓRDOBA

PATHOLOGY TRAINEE AND SCHOLARSHIP AWARD

Auburn University: Dr. Ji-Hang Yin **Colorado State University:** Dr. Eileen Owens Cornell University: Dr. Shelley Chu Iowa State University: Dr. Susanne Je-Han Lin Johns Hopkins University: Dr. Kathleen Mulka Joint Pathology Center: MAJ Dr. Kelsey Fiddes Kansas State University: Dr. Yianelly Rodriguez Ruiz Louisiana State University: Dr. José Cesar Menk Michigan State University: Dr. Zachary Millman Mississippi State University: Dr. Kayla Alexander North Carolina State University: Dr. Mandy Womble The Ohio State University: Dr. Mackenzie Long Oklahoma State University: Dr. Dah-Jiun Fu **Oregon State University:** Dr. Shannon Phelps Purdue University: Dr. Stacey Piotrowski Texas A&M University: Dr. Rebecca Bacon University of California – Davis: Dr. Nicolas Streitenberger University of Florida: Dr. Marley Iredale University of Georgia: Dr. Carisa Fraser **University of Guelph:** Dr. Luke Haydock University of Illinois at Urbana-Champaign: Dr. Samantha Lee **University of Minnesota:** Dr. Christopher Shiprack University of Missouri: Dr. Kara De New University of Montreal: Dr. Charles Lemieux University of Pennsylvania: Dr. Elinor Willis University of Tennessee: Dr. Camille Cordero-Aponte Virginia Polytech. Institute & State University: Dr. Valentina Stevenson Wake Forest University: Dr. Richard Lang III Washington State University: Dr. Holly Drankhan

SEMINAR REVIEWS



S Agriculture and Forestry University





Workshop on Livestock and Wildlife Diseases Chitwan, Nepal November 7-10, 2022

(by Dr. Corrie Brown)



In early November, members of the Global Health Pathology Network (Corrie Brown, Dalen Agnew, and Ishtiaq Ahmed) led veterinarians from government, academic, and private sectors in various exercises involving transboundary animal pathogens, and other diseases of concern in local livestock, poultry, and wildlife. In addition, there were numerous exercises on surveillance, morphologic diagnosis, necropsy procedures, and communication. All activities were interactive and participatory. The workshop was organized by the National Agriculture and Forestry University (AFU), with support from the Nepal Ministry of Agriculture and the UN-FAO. The first two days of the workshop were held at AFU in Rampur, Nepal, and the second

SEMINAR REVIEWS

two days were held at Chitwan National Park, 20km from Rampur. Hosts provided a special treat at the end of the workshop - travel through the park on the back of an elephant, to view the endangered Indian rhinoceros, which the Nepal government is successfully protecting, allowing the population to expand significantly.



Some photos of the course includinga a chicken necropsy session, classroom group work, some of us riding an elephant, and some adult and a baby rhino!

SEMINAR REVIEWS

2022 ACVP/Davis-Thompson Foundation Pre-Meeting Workshop

(by Dr. Jennifer Chapman, Course Director)

Over 150 pathologists, residents, and veterinary students attended the 2022 Davis-Thompson Foundation's annual ACVP Pre-Meeting Workshop, Getting into the Hard Stuff: Tumors of Bone, Cartilage, and Dental Tissues, on November 12 to hear Dr. Keren Dittmer, Dr. Robert Foster, and Dr. Cindy Bell share their expertise. In this full-day session, three co-authors of the fourth volume of the series, Surgical Pathology of Tumors of Domestic Animals, took attendees on a riveting journey through sharing their approach to hard tissue pathology. The presenters discussed normal reaction to bone injury, how to recognize neoplasia and use current nomenclature, as well as principles and guidelines for hard tissue tumor diagnosis and reporting. The presentations covered preparation of bone and hard tissue sections, integration of cytology, gross, microscopic, immunohistochemistry, and diagnostic imaging into diagnosis, highlighting key diagnostic features of common bone, cartilage, and hard tissue tumors. Attendees were given access to scanned slides ahead of the pre-meeting workshop and a case-based discussion was incorporated into the presentations. This was a brilliant seminar, reflected by the overwhelmingly positive remarks from attendees. Thank you Drs. Dittmer, Foster, and Bell!



Dr. Foster lecturing in front of a room full of attendees

Course speakers and some of the organizers Front row (L to R): Cindy Bell, Keren Dittmer, Rob Foster, Bruce Williams. Back row (L to R): Jey Koehler, Paco Uzal, Rafaela De Negri.



Case #: 199; Month: October; Year: 2022

Contributors: Ji-Hang Yin¹, DVM, MS; Rachel Neto¹, DVM, MS, DACVP; Russell Cattley¹, VMD, PhD, DACVP, FIATP.

¹Department of Pathobiology, College of Veterinary Medicine, Auburn University, Auburn, AL 36849 e-mail jzy0089@auburn

Clinical History: A 5-month-old, female intact, Katahdin sheep presented to Large Animal Teaching Hospital at Auburn University for a 24-hour history of abnormal neurologic status including opisthotonos, severe ataxia, and abnormal mentation. Heat stress was suspected by the owner, and unspecified medication was given. Given the lack of responsiveness and poor prognosis, the animal was humanely euthanized.

Clinical Pathology Findings: Hematology results revealed a mild anemia with evidence of strong regeneration and many ghost cells, mild to moderate leukocytosis with neutrophilia, and marked thrombocytosis. Intravascular hemolysis was suspected based on these findings. Other biochemical results were aspartate aminotransferase of 1339 U/L (normal interval range: 75-339 U/L), creatine kinase of 5340 U/L (normal interval range: 100-547 U/L), blood urea nitrogen of 86.4 mg/dL (normal interval range: 19-37 mg/ dL), creatinine of 8.6 mg/dL (normal interval range: 0.8-1.3 mg/ dL), and hemolysis index of 1113. The normal interval range is referred to Clinical Chemistry Reference Intervals in UCDAVIS veterinary medicine.

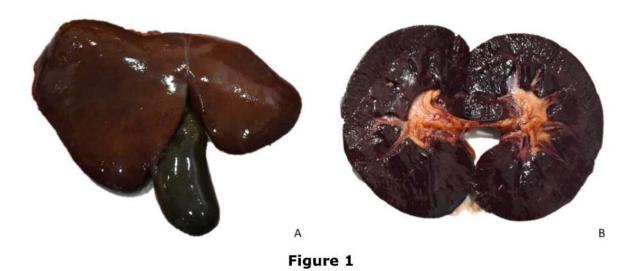
Necropsy Findings: Major gross findings are as follows: The visceral adipose tissue was diffusely pale tan to yellow (icterus). The liver was diffusely dark orange to dark brown (Fig. 1A). The gallbladder was enlarged and distended by bile. Bilaterally, the renal cortex and medulla were diffusely dark brown to black (Fig. 1B). Filling the urinary bladder was approximately 30 mL dark brown urine with numerous fine dark green to brown granules.



DIAGNOSTIC EXERCISE



Gross Images:



Follow-up Questions:

- Morphologic diagnosi(e)s
- Potential etiology
- Name of the disease

*The Diagnostic Exercises are an initiative of the Latin Comparative Pathology Group (LCPG), the Latin American subdivision of The Davis-Thompson Foundation. These exercises are contributed by members and non-members from any country of residence. Consider submitting an exercise! A final document containing this material with answers and a brief discussion will be posted on the CL Davis website (http://www.cldavis.org/diagnostic exercises.html).

Associate Editor for this Diagnostic Exercise: Saulo Pavarini

Editor-in-chief: Claudio Barros

Click here for answers



LCPG ACTIVITIES AT ACVP



SCIENTIFIC PRESENTATIONS OF THE LATIN COMPARATIVE PATHOLOGY GROUP AT THE ACVP ANNUAL MEETING

BOSTON, 2022

The LCPG education committee, chaired by Dr. Ileana Miranda DVM, MSc, DACVP, Dr. Angela Arenas DVM, PhD, DACVP, and Dr. Ana Alcaraz DVM, PhD, DACVP, prepared an excellent session with three wonderful speakers:

Mouse Kidney Parvovirus: Discovery of a Pathogen of Laboratory Mice and Assessment of its Impact on Research Dr. Sébastien Monette, DMV, MVSc, DACVP monettes@mskcc.org Laboratory of Comparative Pathology Memorial Sloan Kettering Cancer Center Weill Cornell Medical College The Rockefeller University New York, NY

BSL-4 non-human primate filovirus research from the veterinary pathologist perspective Dr. Olga Gonzalez, DVM, DACVP ogonzalez@txbiomed.org Professor, Disease Intervention & Prevention Southwest National Primate Research Center Texas Biomedical Research Institute

Frequency of detection and load of amastigotes in the pancreas of Leishmania infantum-seropositive dogs: clinical signs and histological changes Dr. Rodrigo Caldas Menezes, DVM, PhD rodrigo.menezes@ini.fiocruz.br Instituto Nacional de Infectologia Evandro Chagas Fundação Oswaldo Cruz Rio de Janeiro, Brazil

DESCRIPTIVE PATH COURSE BRAZIL





Davis - Thompson Foundation

5-9 December 2022 UFMG Veterinary School Belo Horizonte, Minas Gerais

Brazilian Descriptive Veterinary Pathology Course

- gross pathology foundations
- microscopic pathology foundations
- macro-micro correlates
- ultrastructural pathology foundations
- special techniques (IHC, ISH, molecular)



Dr. Jey Koehler

Dr. Patty Pesavento

ectures in

English with Portuguese

translation

LCPG HISTOPATH ROUNDS



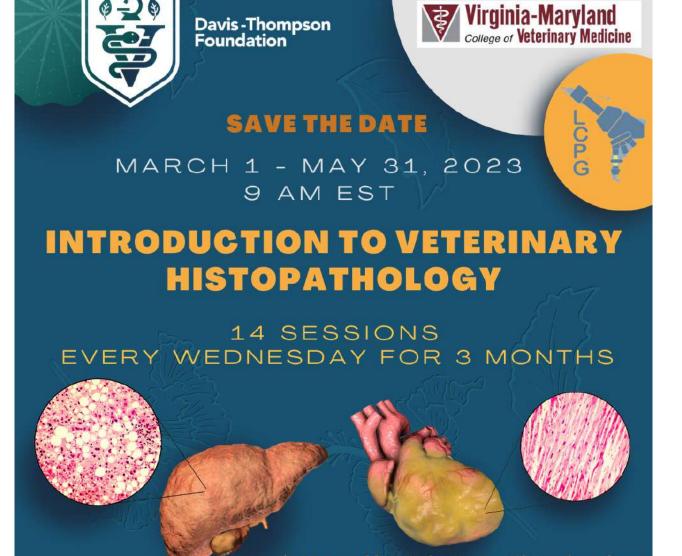
NECROPSY COURSE



GEN PATH COURSE 2023



INTRODUCTION TO VET HISTOPATH



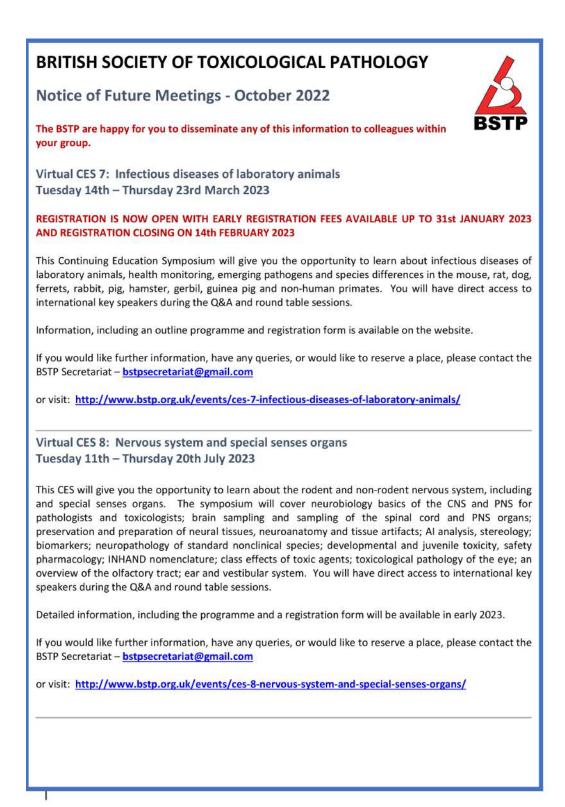
\$150 virtual live (only 50 seats)/\$50 rebroadcast Course director: Francisco Carvallo (francisco.carvallo@gmail.com)

> Registration information coming soon at the DTF website

SPANISH MEETING



BSTP CORNER



BSTP CORNER

BSTP Bursarv	Opportunities	for Early Care	eer Pathologists -	- 2022/2023

The BSTP are able to offer at least **three free places** on each of our Continuing Education Symposiums (CES).

Applications are welcomed from interested members and non-members of the BSTP.

The awarding of funding will be at the discretion of the BSTP Council.

Priority will be given to individuals working within an "early career" environment, for example, stipendiary MSc/PhD students, researchers studying/working within a relevant scientific field, or veterinary pathology residents at a recognised institution working towards a professional qualification or gaining more experience within the field of toxicological pathology.

Further information can be found at: <u>http://www.bstp.org.uk/events/ces-7-infectious-diseases-of-laboratory-animals/</u> or <u>http://www.bstp.org.uk/funding-opportunities/</u>

Webinars

Т

BSTP webinars - in collaboration with the Society of Toxicological Pathology (STP)

Antisense Oligonucleotide-related Macrovesicular Vacuolation of Hippocampal Neurons in Non-Human Primates

A BSTP webinar - in collaboration with the Society of Toxicological Pathology (STP) to be held in December 2022 and the duration of the webinar will be up to 1 hour.

Speakers: Martin Lamb and Annette Romeike

Additional information, including registration details will be available soon.

BSTP webinars - in collaboration with the ESTP/SFPT/BSTP and ECVP/ESVP

8th Joint Webinar ESTP/SFPT/BSTP and ECVP/ESVP

Thursday November 3, 2022: 16.00 - 18.00 CET

Alternative methods to do research in toxicology – Organ on a chip Sasha Berdichevski – Emulate

Toxicologic Pathology in the next decade – science and safety

- Role of the toxicological pathologist is changing Silvia Guionaud
- Why did I choose a career in toxpath? Anna Domènech Fontanals and Fernando Romero Palomo
- Early career network Simone Tangermann

For information on any events organised by the BSTP, please contact the BSTP Secretariat - <u>bstpsecretariat@gmail.com</u>

or visit the website - http://www.bstp.org.uk/bstp-events/ or http://www.bstp.org.uk/bstp-webinars/

BSTP CORNER

New Members

The BSTP welcomes new members and is open to anyone with an interest in the field of toxicological or experimental pathology.

The membership year runs from 1st April through to 31st March of each year with no discount or refunds available if joining or cancelling mid-term.

For more information, visit: <u>http://www.bstp.org.uk/membership-page/</u>

Future BSTP events are due to take place as follows:

3rd November 2022	Webinar in collaboration with the ESTP/SFPT/BSTP and ECVP/ESVP
13th December 2022	Webinar in collaboration with the Society of Toxicological Pathology (STP)
14th – 23rd March 2023	Virtual CES 7 - Infectious diseases of laboratory animals
11th – 20th July 2023	Virtual CES 8 - Nervous System
November 2023	38th Annual Scientific Meeting & AGM
March 2024	CES 9 - Urinary System
July 2024	CES 10 - Digestive System
November 2024	39th Annual Scientific Meeting & AGM
March 2025	CES 11 - Cardiovascular System
July 2025	CES 12 - Endocrine System
November 2025	40th Annual Scientific Meeting & AGM
March 2026	CES 13 - Lymphoid & Haematopoietic Systems
July 2026	CES 14 - Musculoskeletal System & Skin
November 2026	41st Annual Scientific Meeting & AGM

The order of the CES will depend on the availability of high-quality speakers who are world experts in their particular field to present at the relevant meeting. Details of future meetings are correct at the time this booklet is generated, the BSTP will not be held responsible for any changes to dates, topics and venues of these meetings.

IDEXX CASECONNEXX CORNER

Signalment: 4 -year-old, male neutered, Holland/mini lop

Source/ History: Small 1cm well circumscribed, pedunculated mass on left lateral aspect of neck. Surgical excision.

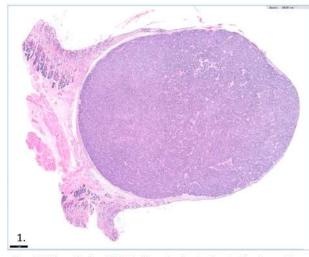


Figure 1. (1X magnification, H&E stain) Expanding the dermis and raising the overlying epidermis, there is a well demarcated, unencapsulated, nodular to pedunculated, neoplasm composed of basaloid epithelial cells.

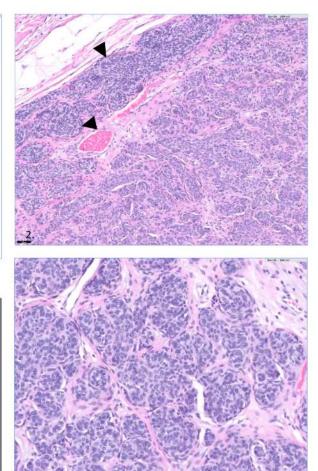
Histopathologic Description:

Histopathologic Description: Within the dermis and raising the overlying epidermis, there is a well demarcated, unencapsulated, nodular to pedunculated neoplasm composed of basaloid epithelial cells arranged in branching and winding trabeculae, islands and occasional medusoid structures supported by a mild fibrocollagenous to fibromyxoid stroma. Neoplastic cells are cuboidal to spindloid with round to oval nuclei, finely stippled chromatin, and one to two small nucleoli. There is mild cellular and nuclear pleomorphism.

Interpretation:

Trichoblastoma Margin assessment: Appears completely excised

Comments: Trichoblastoma is a benign neoplasm of follicular germ cell origin. In one study, trichoblastoma was the most common skin neoplasm of pet rabbits.



Figures 2 (20X magnification, H&E stain) and 3 (40X magnification, H&E stain) Neoplastic cells are arranged in trabeculae and islands with occasional peripheral palisading (arrowheads) and scattered vague medusoid structures.

Common sites of occurrence in the rabbit include the head, neck, flank and hindlimbs. These neoplasms are typically seen in rabbits older than four years of age and are often solitary, though may occasionally be multicentric. With complete excision, local recurrence is not anticipated.

In one report, the peripheral palisading basal-type cells of the neoplasm were positive for cytokeratin 14, and the inner cells were typically positive for cytokeratin 17. This immunohistochemical staining pattern differs from the immunohistochemical profile of the normal rabbit epidermis and hair follicle.

References: Delaney MA, Treuting PM, Rothenburger JL. Lagomorpha. In: Terio KA, McAloose D, St. Leger J, eds. Pathology of Wildlife and Zoo Animals. San Diego, CA: Elsevier;2018:486; Kok MK et al. Histopathological and Immunohistochemical Study of Trichoblastoma in the Rabbit. J Comp Pathol, 2017 Aug-Oct;157(2-3):126-135; von Bomhard W et al. Cutaneous neoplasms in pet rabbits: a retrospective study. Vet Pathol. 2007 Sep;44(5):579-88



Case by Joseph Malatos, DVM, DACVP



Become a member of the Latin Comparative Pathology Group

LCPG:

- Provides Diagnostic Exercises
- Offerstravel awards
- Coordinates externships in US labs for Latin Americans
- Organizes and lectures in Latin American seminars and courses

Membership Fees:

- \$50 Professionals in US, Canada, and Europe
- \$30 Professionals in Latin America
- \$25 Students in US, Canada, and Europe
- \$15 Students in Latine America

Use this link to join: https://davisthompsonfoundation.regfox.com/lcpg-membership

LCPG is the proud Latin American Division of the Davis Thompson Foundation



Please contact one or more of the following if you are interested in volunteering:

- -Dr. Koehler: jaw0007@auburn.edu
- -Dr. Uzal: fauzal@ucdavis.edu
- -Dr. Williams: bruce.h.williams.dvm@gmail.com

ARCHIVO VETERINARIO DEL ESTE

EDITORIAL

Han pasado ya 13 años desde la publicación del primer número del Archivo Veterinario del Este. Nuevas enfermedades siguen apareciendo y poco a poco se hace más claro el patrón de comportamiento de la mayoría de los problemas sanitarios. El diagnóstico patológico es complejo y requiere de creatividad, rutina y décadas de actividad continua. DILAVE, el laboratorio oficial del MGAP, fue fundado en 1932 como Laboratorio de Biología Animal por el Dr. Miguel C Rubino (cumplimos 90 años). Actualmente acumula decenas de miles de registros sistemáticos, metódicos y lógicamente ordenados, con una base de datos capaz de proporcionar información útil al sector agropecuario. En este número seguimos con el objetivo de describir las nuevas enfermedades diagnosticadas el primer semestre y analizar aquellas de las que ya disponemos de información de interés regional.

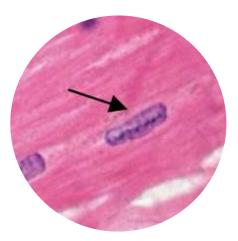
Dr. Fernando Dutra Quintela

Encargado del Laboratorio

Check Archivo Veterinario del Este







Surgical Pathology of Tumors of Domestic Animals

Edited by M. Kiupel



Volume 4: Tumors of Bone, Cartilage and Other Hard Tissues K. Dittmer, P. Roccabianca, C. Bell, B. G. Murphy, R. A. Foster, J. L. Scruggs, F. Y. Schulman,

D. Thompson, G. Avallone, M. Kiupel

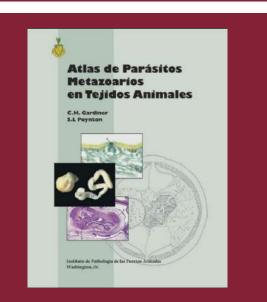
CLICK HERE to order your copy today!

RETIRING?

Have slides left over from your recent slide seminar? Just looking to free up some storage space? The Foundation is looking for additional glass slides, kodachromes and other similar materials for its Correspondence Division and Study Centers. All materials should be well identified with as much accompany history and discussion as possible, as these materials are expressly used for teaching. Moreover, as the Foundation is a publicly donative charity, all donated materials are tax-deductible. For more information, please contact Dr. Bruce Williams at **bruce.h.williams.dvm@gmail.com.**

Davis-Thompson Foundation Pathology Externship

Since 1980, the Davis-Thompson Foundation lab sites have hosted more than 125 veterinary students at 8 participating diagnostic laboratories. These students usually have a strong interest in pathology itself or zoo or poultry medicine that require a strong pathology background. The Foundation is always interested in having veterinary students apply for an externship and we would like to add more externship sites that do not usually have veterinary students, to help increase their interest and knowledge of pathology with some offcampus experience. For more information, contact Dr. Jim Britt, **jobritt@sbcglobal.net;** 501-912-1449.



Atlas De Parasitos Metazoarios En Tejidos Animales - <u>Click Here</u> to Get a Digital Download!



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DECEMBER 2022