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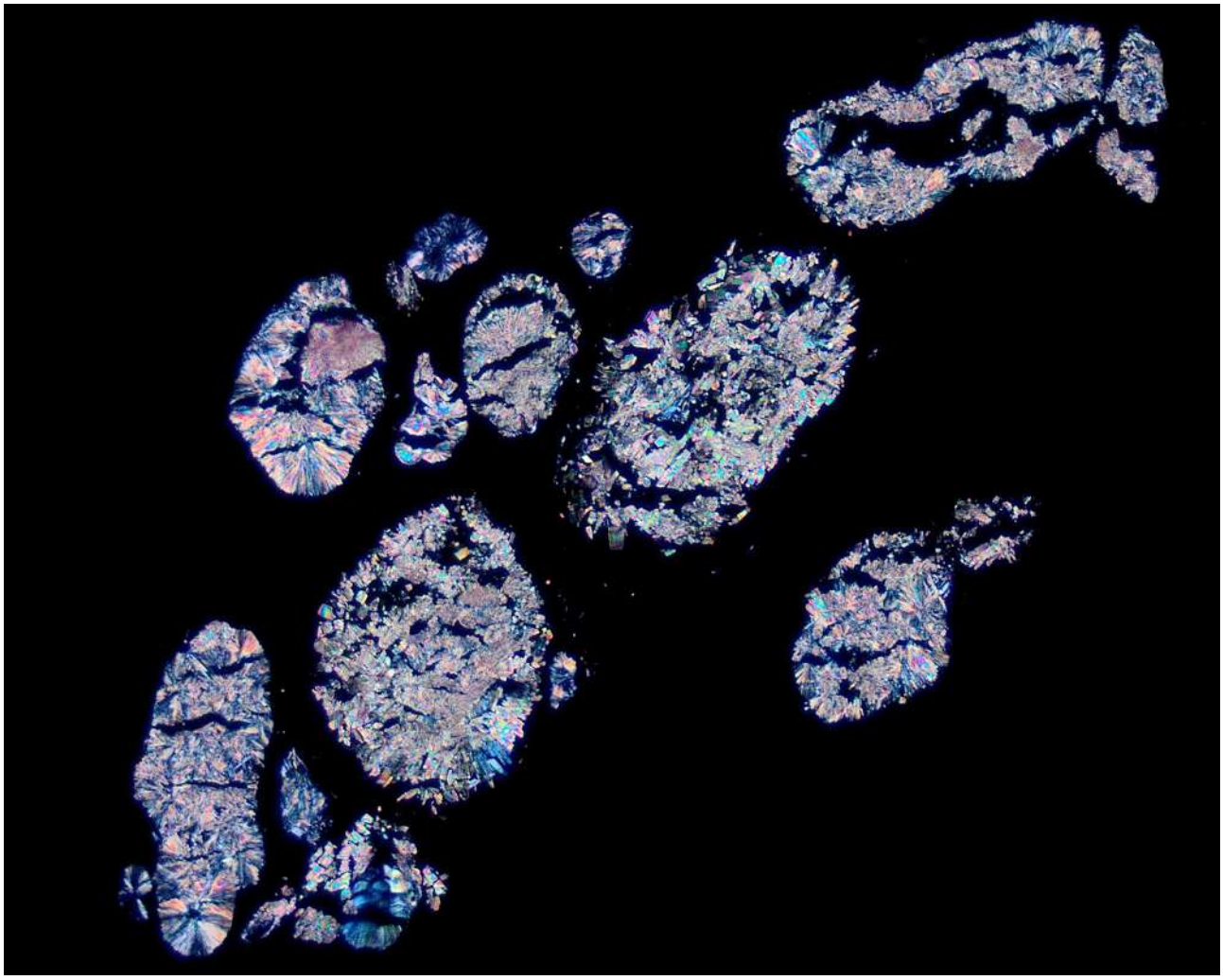
and comparative pathology

THE DAVIS-THOMPSON FOUNDATION NEWSLETTER

February 2023

VOL. 53



This polarization micrograph of a koala kidney most likely represents what crystal type?

a) Struvite
b) Calcium oxalate
c) Calcium carbonate
d) Bilirubin

INSIDE THIS ISSUE

Monthly cover photograph winner: Viviana Gonzalez-Astudillo

Institution: The University of Queensland, School of Veterinary Science

Answer: b) Calcium oxalate

A 2013 study in South Australia found that 55% of rescued wild koalas from the Mt. Lofty Ranges population were affected by oxalate nephrosis. The potential causes are suspected to be like other mammalian species including dietary intake of oxalate containing plants and/or hyperoxaluria associated with a recessive inherited disorder of the hepatic enzymatic pathways involved in glyoxylate metabolism resulting in excessive endogenous oxalate production.

Reference: Speight KN, Boardman W, Breed WG, Taggart DA, Woolford L, Haynes JI. Pathological features of oxalate nephrosis in a population of koalas (*Phascolarctos cinereus*) in South Australia. Veterinary pathology. 2013 Mar;50(2):299-307.

-Dr. Katherine D. Watson - Cover Image Editor
-Dr. Donald M. McGavin - Cover Image Composition Analyst

MESSAGE FROM THE CEO

Dear Colleagues

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

This issue has several exciting new features, which we hope to keep for future editions, including:

1-A quick quiz for the cover photograph. Have a look at this wonderful image, provided by Dr. Viviana Gonzalez-Astudillo and selected by our fantastic Cover Image Editor and Composition Analyst, Drs. Kate Watson and Donald McGavin, respectively.

2-The Expert's Corner. This is a column that builds on Dr. Grant Maxie's outstanding editorial in our edition of April 2022. This month we were fortunate to have one of the legends of pathology, Dr. Roger Kelly, University of Queensland, Australia, telling the story of the early days of canine parvoviral enteritis diagnosis in Australia.

3-The Latin Comparative Pathology Group (LCPG) Corner, where we will be publishing training opportunities specific to Latin America. Please have a look at this new section and in particular peruse the letter of invitation (in English, Spanish and Portuguese) to join the LCPG.

And of course, in these pages you will find detailed information about the myriad training opportunities offered monthly and worldwide by your Foundation.

Hoping to see many of you in one or more of our upcoming seminars.

Warm regards

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

THE EXPERTS' CORNER

CHASING PARVO: If Only...

Assoc. Prof. W. Roger Kelly, BVSc MVSc PhD (retired)
Dept. Pathology, University of Queensland Veterinary School

'Now, just hang on a minute. Do you, or do you not, remember tearing a strip off me last year for mislabelling some specimens I sent you?'

Dick Wells' grumpy voice on the phone jolted my memory. It was late 1978 and I'd just phoned the private practitioner about a sample that he had sent me for pathological diagnosis. After I'd discussed that case and its diagnosis, I had changed the subject.

'Dick, we've been seeing lots of cases of severe, often fatal, gastroenteritis in dogs of all ages. The weird thing is that on PM the histopathology is almost exactly the same as what we see in feline enteritis...'

It was then that Dick interrupted with his truculent question about last year's specimen. Dick was an excellent clinician with whom senior veterinary students often 'saw practice.' Whenever a surgical biopsy or a post-mortem examination was performed in Dick's practice, he would give preserved samples to any students who were there, to take back to my laboratory at the Queensland University's veterinary school. I was happy to examine these specimens free of charge, since our senior students were gaining the benefit of Dick's experience.

Now I remembered what the clinician was talking about. More than a year ago, a student had brought me some bottles of preserved intestine from Dick's practice, together with a hastily-written note to the effect that the samples were from a fatal case of gastroenteritis in a pup. The histological sections from these specimens showed changes that were identical to those seen in feline enteritis, the well-known parvoviral infection of cats. Back then, I had assumed that there'd been a mix-up of specimen bottles at the practice and that cat samples had been mislabelled as canine. I'd phoned Dick and had a good-humoured dig at him about his flawed record-keeping. On the defensive, Dick had agreed that perhaps a mix-up had occurred, and had apologised and we'd left it at that.

THE EXPERTS' CORNER

Now, fourteen months later, it was my turn to apologise. I did so as graciously as I could and hung up, my ears burning, and hurried to the admissions desk and grabbed the day-books in which the details of all accessions were entered. I spent the next hour scouring the files in vain for any record of the case. Eventually I decided that I must have thrown out everything to do with the case – paperwork, tissue remnants and sections, the lot – since there was no point in keeping material when there was doubt about its origins.

Next week I answered a call from a veterinary virologist at the Sydney University veterinary school, who asked if there had been an outbreak of enteritis in dogs in Brisbane. So I wasn't the only one on the trail of the new disease, and I broke out in a cold sweat at the thought of how much time had been lost by me leaping to the wrong conclusion about the identity of that specimen last year. It was clear that I was now in a race for primacy of discovery, a race that excites even the least ambitious academic.

Most university scientists depend for their academic advancement on publication of their findings from funded basic research. But my publication record was mostly based on interesting pathology that emerged from cases that came to my diagnostic service. So reporting a new naturally-occurring disease would surely enhance my prospects for promotion, and the excitement of this new discovery was very real. And to give me a further spur, three days later Clive Huxtable at the Murdoch veterinary school in Perth phoned me. After the preliminaries, he asked, 'Have you been seeing any outbreaks of severe gastroenteritis in dogs over there in the east? We're seeing a lot of cases here and the mortality rate's quite high. And the histo of their bowel sections looks just like feline parvovirus infection... '

I broke in, 'Indeed we have, Clive, and as it happens I've just scribbled a draft of a letter to the AVJ. It's got to be a new parvo that's jumped from cats to dogs.'

'Oh, have you. I see. That's very interesting...' The disappointment in Clive's voice was obvious and I stiffened with excitement. It seemed that the Murdoch crowd might not be as far along in their investigation as I was.

THE EXPERTS' CORNER

Clive went on, 'Well, there's another new condition that's killing canines over here. This time it's very young pups, all of them. Sudden death, no diarrhoea or fever. Perfectly well one minute, then they keel over with cardiac arrest, especially if they get excited. Usually the whole litter dies within a few days. And the histo of the myocardium is really interesting. Severe diffuse subacute non-suppurative myocarditis... are you still there?'

I'd been stunned into silence. Clive's description exactly matched what I had found in two litters of pups that had died a few weeks ago, and I was thinking of writing those cases up, as well as the enteritis cases. It had been a busy time.

'Yes, Clive, that's exactly what I've seen in a couple of litters here. And in my cases there were big basophilic intranuclear inclusions in the myocardium...'

It was Clive's turn to interrupt. 'Yes! They're there in most cases, not all of them, though. We're just about to send off our letter on that one, so I'll give you a clue. A couple of years ago someone published a case of myocarditis in chickens, for heaven's sake. The report had photomicrographs of exactly the same sort of myocardial intranuclear inclusions and, guess what? They did electron microscopy on their inclusions and decided it was a parvovirus. How about that! We might have two distinct conditions caused by the same new virus.'

My mind was racing... 'Jesus, Clive! I can't get my head around that... How does the same virus produce two distinct diseases?'

We speculated about the phenomenon for a while, then I said, 'Thanks heaps for the call, Clive. As soon as I hang up, I'm going to finish that letter on the enteritis and send it off. And I guess you'll be doing the same with your cardiac letter. It'll be interesting to see which one gets published first, eh?'

And so canine parvovirus burst upon the world. Clive's and my letters were published in subsequent issues of the Australian Veterinary Journal and for a while we entertained hopes of being the first to have described the new infection. But no. From all parts of the planet reports similar to ours began to

THE EXPERTS' CORNER

appear in the literature and, while the Australian cases were among the first to be published, it soon became clear that the infection was present in the canine population world-wide. Quarantine would never be an issue for a virus that was ubiquitous, so the epidemiologists were left wondering how the disease had managed to spread unrecognized throughout the world. The answer lay in the fact that all parvoviruses are tough little buggers. They can survive drying and sunlight and soap and water and must have been hitching rides on shoes for months, if not years. In all epidemics, case numbers start off low, but the tempo of infection eventually rises to the point where it can be ignored no longer.

The mystery of the cardiac form of the disease was eventually explained by the discovery that it was caused by the virus infecting unborn pups inside bitches that had no immunity to the organism. At that stage, the heart muscle is susceptible to damage by parvo while the intestine is not, hence the two forms of the disease.

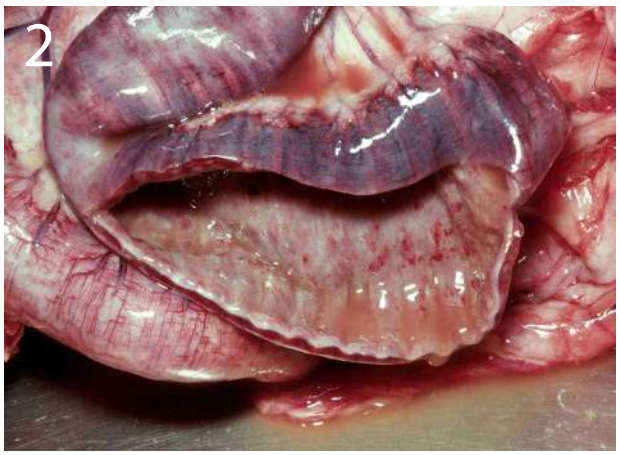
In 1980 I went on study-leave to Canada and Britain and, because of my early experience with canine parvo, for a while found myself in the unexpected role of "world expert" on the disease. But I was relieved to meet quite a few diagnostic pathologists in both countries who quietly admitted that they had seen cases as much as two years ago, and had decided, as I had, that someone had miss-labelled the samples. One of them ruefully suggested that we should form an informal exclusive association, the "If Only" club.

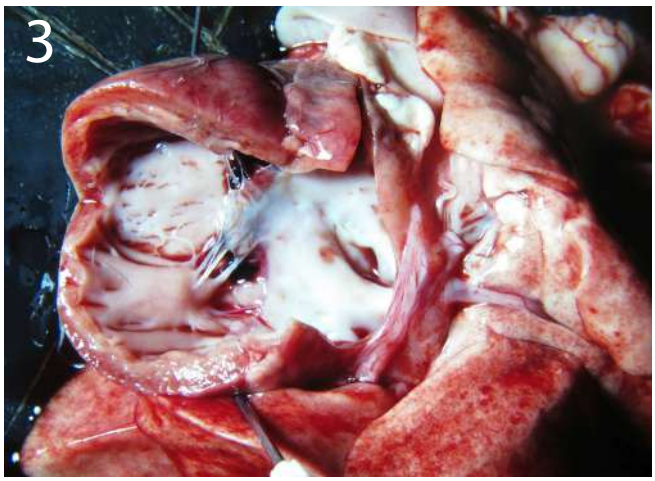
References

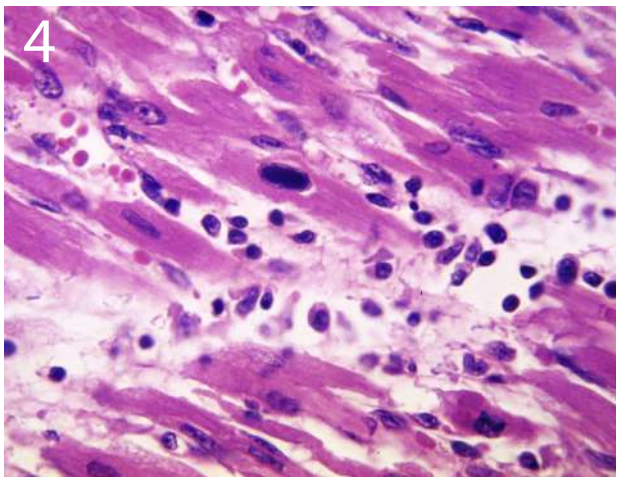
Kelly, W.R. (1978) An enteric disease of dogs resembling feline panleucopaenia. Aust. Vet. J. 54: 593.

Huxtable, CR et al. (1979) Sudden death in puppies associated with suspected viral myocarditis. Aust.Vet. J. 55: 37-8.

THE EXPERTS' CORNER







1. Pup from an outbreak of gastroenteritis in a refuge in 1978. Histo of its femoral marrow mimicked the changes in feline panleucopaenia, so it was time to start writing.
2. Typical canine parvovirus enteritis, small bowel. Villous mucosa replaced by pseudomembrane; bowel wall flabby, dilated and hyperaemic.
3. Sudden death in a 10 day-old pup. Left ventricle opened to show dilatation and myocardial pallor. The whole litter died of cardiac arrest with a few days.
4. H&E-stained histo section of (3.). Left ventricular myocardium infiltrated by mononuclears, and a few myocardial nuclei are filled with large basophilic inclusions.

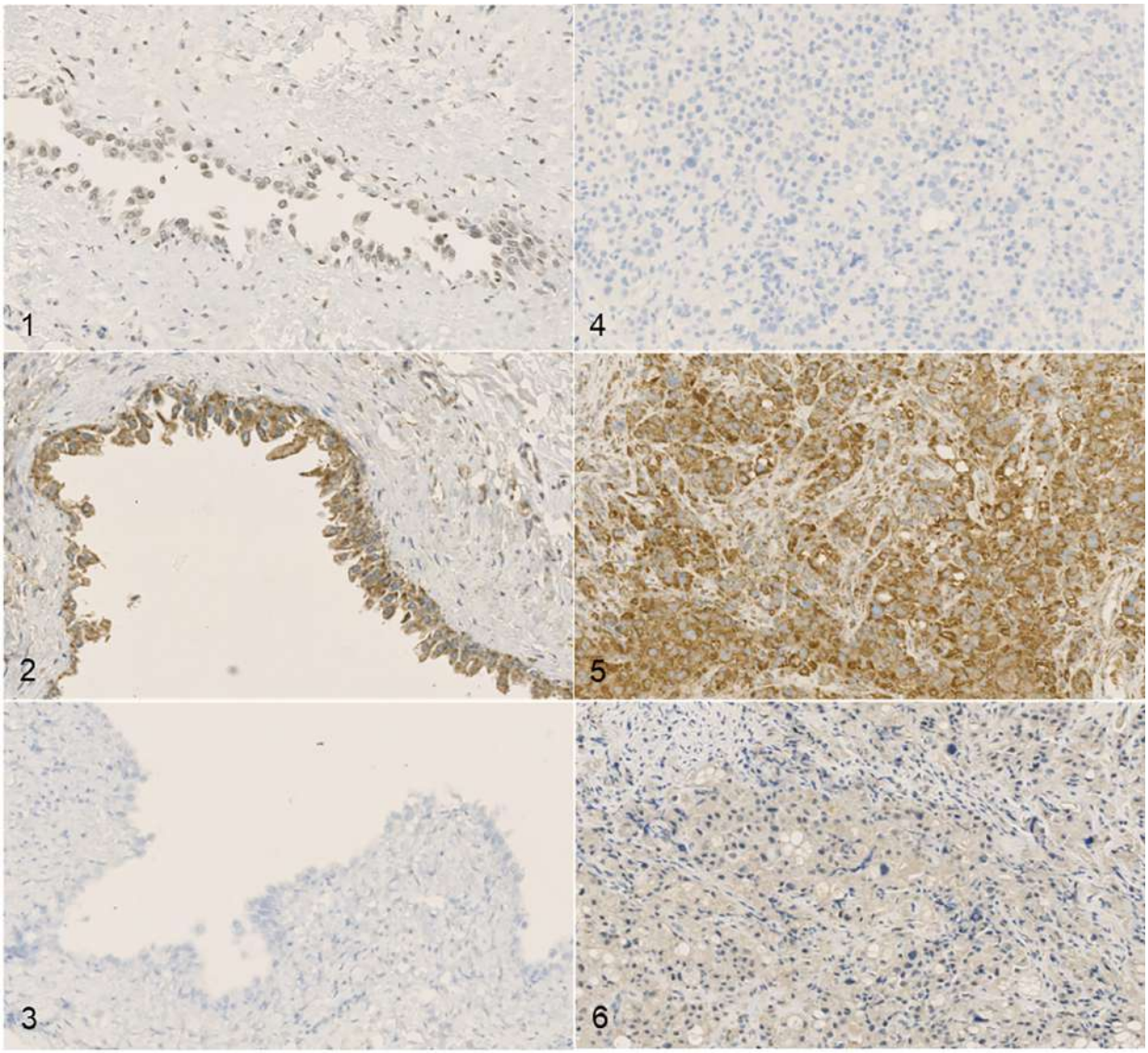
JVDI IN FOCUS

This month's focus is an article appearing in JVDI's March issue, "**Immunohistochemical analysis of expression of VEGFR2, KIT, PDGFR-B, and CDK4 in canine urothelial carcinoma**" by Laura C. Setyo, Shannon L. Donahoe, Patrick L. Shearer, Penghao Wang, Mark B. Krockenberger.

J Vet Diagn Invest 2023;35(2).
https://journals.sagepub.com/doi/10.1177/10406387221146247

Abstract. Urothelial carcinomas (UCs), also known as transitional cell carcinomas, are the most common canine urinary tract neoplasms. Tyrosine kinases (TKs) are enzymes that tightly regulate cell growth and differentiation through phosphorylation. Receptor TK (RTK) inhibitors are currently used to treat UCs. Toceranib phosphate (Palladia; Pfizer) is an RTK inhibitor that blocks the activity of vascular endothelial growth factor receptor 2 (VEGFR2), platelet-derived growth factor receptor–alpha and –beta (PDGFR-B, -A), FMS-like tyrosine kinase 3, stem cell factor receptor (KIT, kinase inhibitor targeting), and colony stimulating factor receptor. To better understand UCs and validate treatment targets, we performed immunohistochemical staining for RTKs, as well as a novel target, cyclin-dependent kinase 4 (CDK4, a central regulator of the mammalian cell cycle), on formalin-fixed, paraffin-embedded tissues from bladder biopsies from 17 dogs with UCs, 17 dogs with cystitis (diseased controls), and 8 normal dogs (negative controls). Although immunohistochemical scores could not be extrapolated to prognostic value, response to treatment, and outcome of patients with UC, we demonstrated expression of PDGFR-B and VEGFR2 in UCs; all UC samples staining positively for VEGFR2. Minimal positive staining for KIT was noted in the tumor samples. CDK4 staining intensity was significantly weaker in UCs compared with normal and cystitis bladder samples. The intense staining of VEGFR2 in UC cells suggested that VEGFR2 may be of prognostic and/or therapeutic value in dogs with UC. Overexpression of VEGFR2 in UC cells validates this receptor as a treatment target in UC.

JVDI IN FOCUS



Figures 1–6. Immunohistochemical expression of VEGFR2, KIT, PDGFR-B, and CDK4 in canine urothelial carcinoma (UC). **Figures 1–3**. Immunolabeling for transitional epithelium in normal canine urinary bladder. Diaminobenzidine (DAB) chromogen, hematoxylin counterstain. **Figure 1.** CDK4 cytoplasmic and nuclear immunoreactivity is mild and diffuse. **Figure 2.** FLK (VEGFR2) cytoplasmic immunoreactivity is intense and diffuse. **Figure 3.** KIT immunoreactivity is absent. **Figures 4–6.** Immunolabeling for transitional epithelium in canine UC. DAB chromogen, hematoxylin counterstain. **Figure 4.** CDK4 immunoreactivity is absent. **Figure 5.** Neoplastic cells have intense and diffuse cytoplasmic immunolabeling for VEGFR2. **Figure 6.** KIT immunoreactivity is absent.

SEMINAR REVIEWS

LCPG ROUNDS PATOLOGIA OCULAR

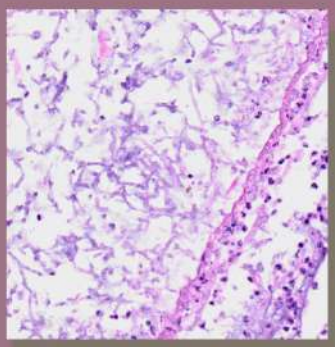
MENSUALES/ MENSAIS

INTERACTIVOS / INTERATIVOS

EN ESPAÑOL / EM PORTUGUÊS

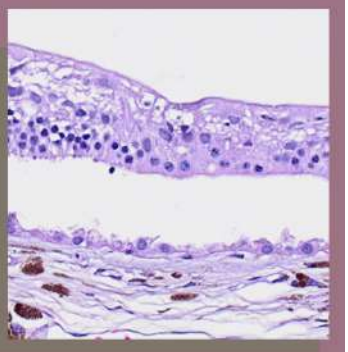
Sessão de Janeiro Patologia ocular

(por Rachel Neto)



Foi uma grande honra ter organizado e moderado a primeiro sessão de lâminas digitais deste ano, dia 19 de Janeiro de 2023! Patologia oftálmica é uma das minhas maiories paixões, e fiquei extrememante animada em testemunhar quantas pessoas interessadas no tema estavam online para interagir conosco.

Os voluntários Paula, Davi, Roberio, e Fábio foram sensacionais. Todos descreveram detalhadamente os achados de cada caso e ainda resumiram os pontos principais de cada doença. Foi uma baita revisão! Também aproveitamos para tirar algumas dúvidas sobre melanocitomas intraoculares e uveite recorrente equina. Você poderá acompanhar tudo isso no canal do YouTube se não conseguiu estar online.



DIAGNOSTIC EXERCISE

Case #:**203**; Month: **December**; Year: **2022**

Contributors: Contributors: Franciéli A. Molossi, DVM, MSci, Bianca S. de Cecco, DVM, MSci, PhD, Luan C. Henker, DVM, MSci, PhD, Marina P. Lorenzett, DVM, MSci, PhD, David Driemeier, DVM, MSci, PhD, Saulo P. Pavarini, DVM, MSci, PhD, Universidade Federal do Rio Grande do Sul. francieliadrianemolossi@hotmail.com

Clinical History: Between December 2018 and February 2019, a farm owner recorded the death of five six-month-old Angus calves from a group of 117. The herd was kept in native pastures and was vaccinated against foot-and-mouth disease, rabies, and against pathogenic *Clostridium* ssp. Affected calves presented similar clinical signs, including fever, apathy, severe respiratory distress, nasal discharge, and diarrhea. The clinical course lasted approximately three days, and calves died spontaneously, despite being treated with antibiotic therapy. One of the dead calves was submitted for postmortem examination.

Necropsy Findings: The calf was in good body condition. The subcutaneous tissue, oral mucosa, and ocular conjunctiva showed mild icterus. The lung did not collapse at the thoracic cavity opening, presenting a rubbery texture, fleshy aspect, and interlobular edema. The spleen was severely enlarged. The liver was markedly enlarged with diffuse orange discoloration. The gallbladder was distended and filled with grumous bile and fibrin deposition on the mucosa. No alterations were observed in other organs.

Macro- and microscopic images:

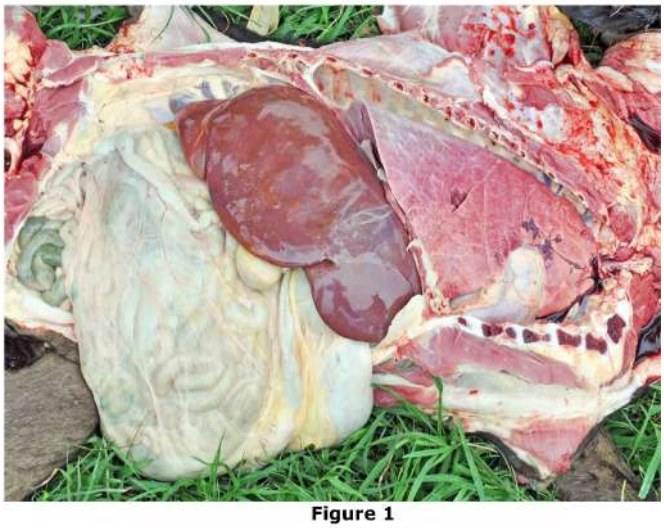


Figure 1

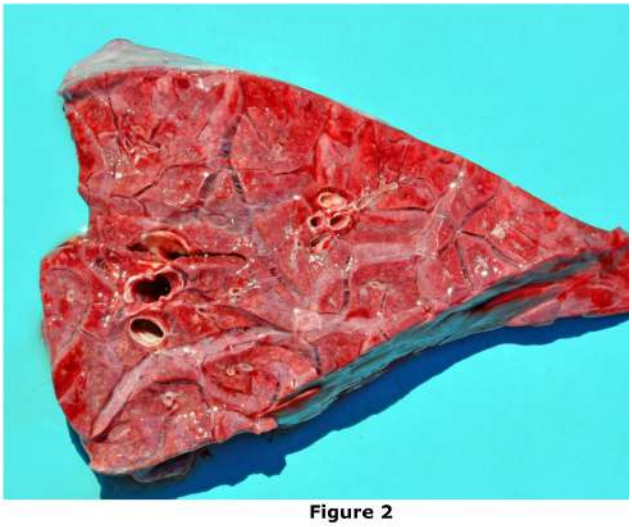


Figure 2

DIAGNOSTIC EXERCISE

Figure 3

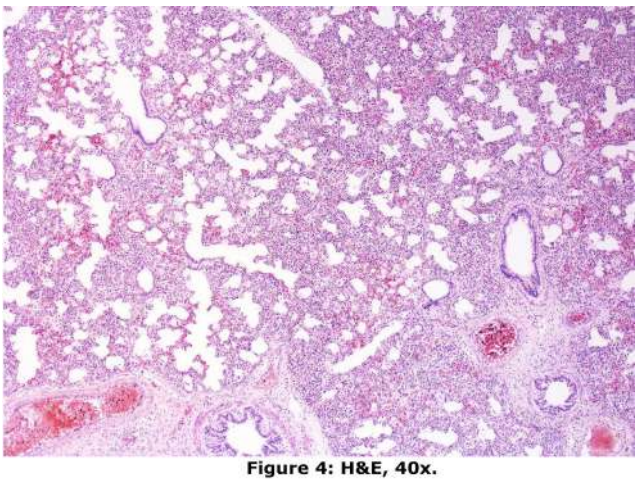


Figure 4: H&E, 40x.

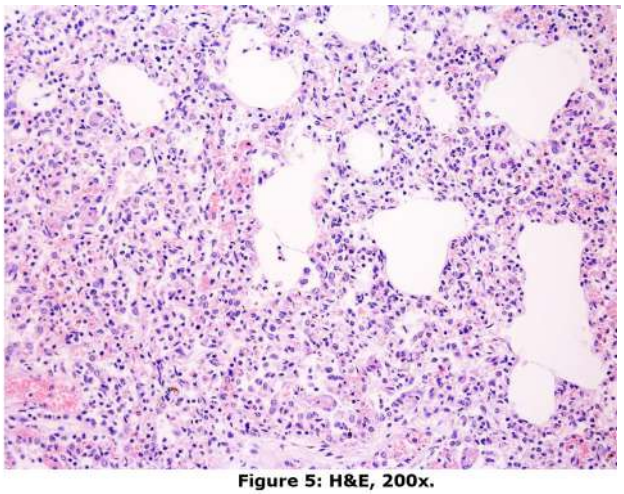


Figure 5: H&E, 200x.

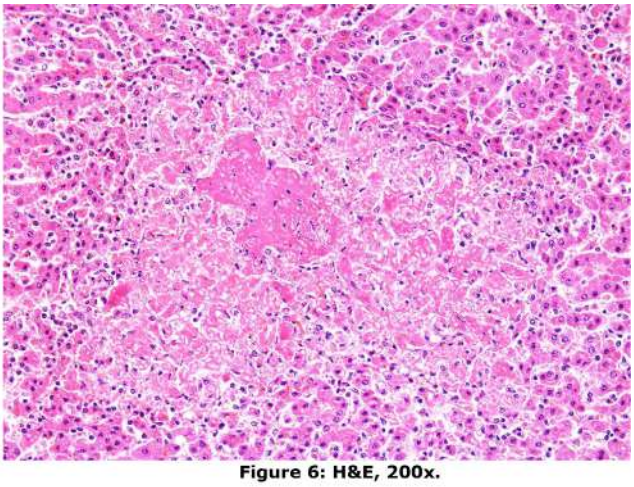


Figure 6: H&E, 200x.

Follow-up questions:

- Morphologic diagnosis
- Etiologic diagnosis
- Etiology

Associate Editor for this Diagnostic Exercise: Saulo Pavarini

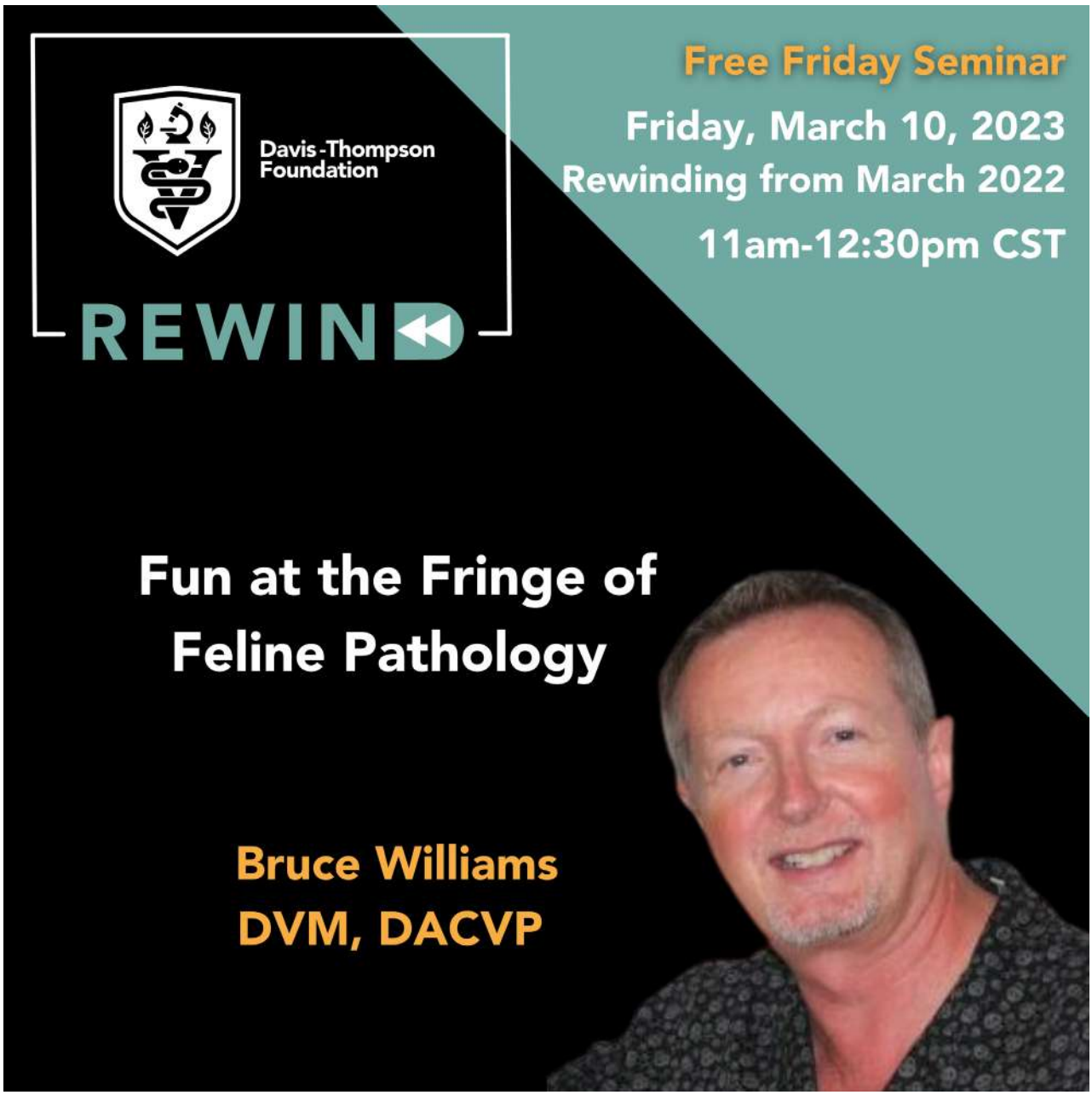
Editor-in-chief: Claudio Barros

Click here for answers

SESC CASE ARCHIVE

Click here to register

REWIND: FELINE PATHOLOGY



Click here to register

INTRODUCTION TO VET HISTOPATH

Click here to register
(only rebroadcast version available)

SPANISH MEETING

Click here to register

BSTP CORNER

Future BSTP events are due to take place as follows:

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.

BSTP

For registration and more information about the events, visit the BSTP website:
https://www.bstp.org.uk/events/bstp-events/

IDEXX CASECONNEXX CORNER

Signalment: 3-month-old, female spayed, Domestic shorthair

Source/ History: Abnormal OHE; Right ovary: enlarged with dark swelling, about 1/2" across. Left ovary: very large bilobed follicular mass- each portion about 2" across, had omentum adhered to the masses.

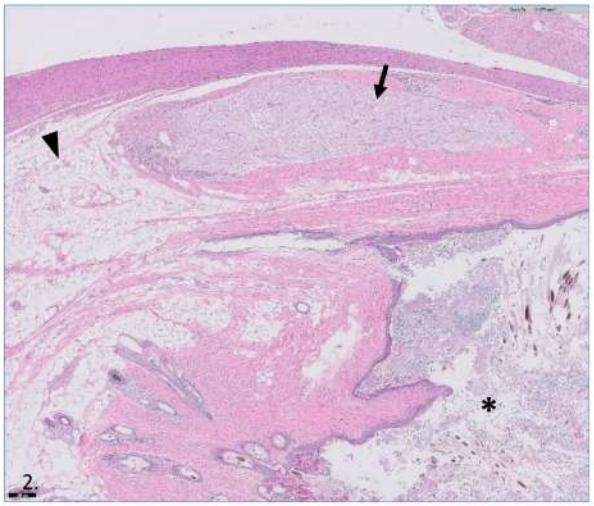


Figure 1. (1X magnification, H&E stain) Expanding and largely replacing the normal ovarian tissue (dashed ellipse), unencapsulated, multilobulated neoplasm composed of multiple tissue types.

Figure 2. (5X magnification, H&E stain) Within the mass there are cystic structures lined by stratified squamous epithelium and hair follicles (asterisk), neural tissue (arrow), dermal collagen, and adipose tissue (arrowhead).

Microscopic Description:
In both ovaries, replacing 80-90% of normal ovarian tissue and compressing the remaining stroma and ovarian follicles is an unencapsulated, densely cellular, multilobulated neoplasm composed of multiple tissue types differentiated toward all three primordial germ layers. There are multifocal cystic structures lined by keratinizing squamous epithelium with a granular cell layer and hair follicles with luminal keratin and hair follicle fragments. Neural tissue consists of neurons, glial cells, and scattered ganglia. Mesodermal structures include variably sized lobules and trabeculae of cartilage and bone, dermal collagen, adipose, skeletal muscle bundles, and occasional tooth like structures. Endodermal elements include multiple variably sized cystic spaces lined by a single layer of cuboidal to columnar ciliated epithelium with multifocal subjacent tubules (respiratory epithelium), multifocal tubular/glandular structures lined by mucous cells, and focal pancreatic tissue.

Microscopic Interpretation:
Ovary, bilateral: Teratoma

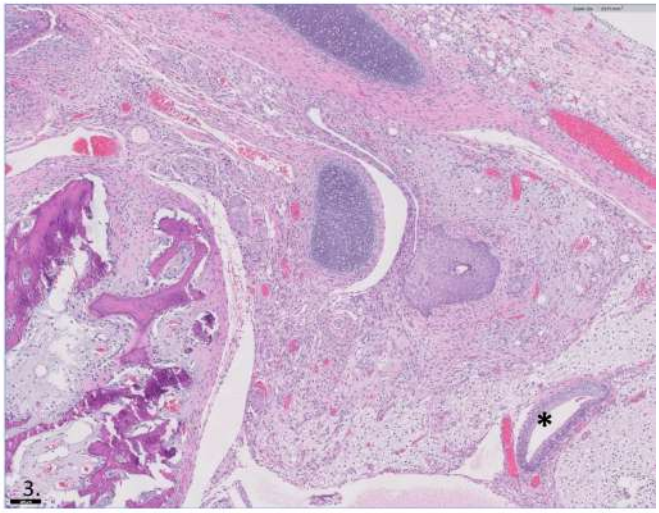


Figure 3. (**10X magnification, H&E stain**) Within the mass are islands of cartilage, trabeculae of bone, and variably sized cystic structures and tubules lined by ciliated epithelium (asterisk).

Comments:
Histologic examination of the submitted samples revealed evidence of a teratoma in both ovaries.

Teratomas are germ cell tumors that exhibit differentiation along two to three of the germinal layers: ectoderm, endoderm, and/or mesoderm. Heterogeneous tissues may be present, including hair, epidermis, sebaceous material, bone, cartilage, teeth, neural tissue etc. Most teratomas arise in the gonads. Histologic criteria have not been well established to differentiate benign and malignant teratomas in small animals. In one study, 3 of 7 dogs with teratomas developed metastasis. However, most teratomas in dogs and cats are usually benign and ovariohysterectomy is usually curative.

References: Basaraba RJ et al. An ovarian teratoma in a cat. Vet Pathol. 1998 Mar;35(2):141-4; Greenlee PG, Patnaik AK. Canine ovarian tumors of germ cell origin. Vet Pathol. 1985 Mar;22(2):117-22; Meuten, ed. (2017), Tumors in Domestic Animals, 5th ed., 698.

Case by
Joseph Malatos, DVM, DACV

IDEXX

CaseConnexx

Visit CaseConnexx.com to Register

LCPG CORNER

See next pages for detailed information about how to become a member

LCPG CORNER

Help Latin American trainees and pathologists: Join the LCPG

Dear Davis/Thompson foundation (DTF) members and followers,

If you are interested in helping improve access to education in the field of veterinary pathology for veterinarians and students in Latin America, this message is for you.

The "Latin Comparative Pathology Group" (https://davisthompsonfoundation.org/latin-comparative-pathology-group/) is a division of the DTF whose main objective is to promote the education of veterinary pathology in Latin America. This objective is achieved through the organization of seminars, workshops and courses taught in English, Spanish and Portuguese in Latin American countries, and the granting of scholarships to veterinarians and students residing in the region to facilitate attendance at courses and congresses in the United States (for example, the ACVP annual meeting). In addition, the group helps establish professional connections for internships, and guides the application process for Latin veterinarians to residency and graduate programs in veterinary pathology.

These activities are possible thanks to the financial contribution of the members of the group themselves, who pay an annual membership whose current rates vary from US$ 15 to US$ 50 depending on whether the applicant is a student or professional and where they live.

The best way to help is to become a member. For this, go to the DTF website to make the corresponding payment by credit card (https://1drv.ms/w/s!ArSfd33WDOc9gsY6Ti7c3OUceoQ0mg?e=J2shyf) and then send an email to lcpgsecretary@gmail.com to confirm your membership.

If you read this far, don't miss this opportunity to help us. Members of any nationality are welcome (being Latino is not required).

Thank you,

LCPG Council Members

LCPG CORNER

Ayude a los estudiantes y patólogos latinos: Únase al LCPG

Estimados miembros y seguidores de la Fundación Davis/Thompson (DTF),

Si están interesados en ayudar a mejorar el acceso a la educación en el campo de la patología veterinaria de veterinarios y estudiantes de Latinoamérica, este mensaje es para ustedes.

El "Grupo Latino de Patología Comparada" (https://davisthompsonfoundation.org/latin-comparative-pathology-group/) es una división de la DTF cuyo principal objetivo es promover la educación de la patología veterinaria en Latinoamérica.

Este objetivo es alcanzado a través de la organización de seminarios, talleres y cursos dictados en inglés, español y portugués en países de Latinoamérica, y el otorgamiento de becas a veterinarios y estudiantes residiendo en la región para facilitar la asistencia a cursos y congresos en Estados Unidos (por ejemplo, el congreso anual del ACVP). Además, el grupo ayuda a establecer conexiones profesionales para realizar pasantías, y guía en los procesos de aplicación de veterinarios latinos a programas de residencia y posgrado en patología veterinaria.

Estas actividades son factibles gracias al aporte financiero de los propios miembros del grupo, que abonan una membresía anual cuyas tarifas actuales varían de US$ 15 a 50, dependiendo de si el aplicante es estudiante o profesional y de su sitio de residencia.

La mejor manera de ayudar es hacerte miembro. Para esto ingresa al sitio web de la DTF para hacer el pago correspondiente con tarjeta de crédito (https://1drv.ms/w/s!ArSfd33WDOc9gsY6Ti7c3OUceoQ0mg?e=J2shyf) y luego envía un correo a lcpgsecretary@gmail.com para confirmar tu membresía.

Si leíste hasta acá, no dejes pasar esta oportunidad de ayudar. Los miembros de cualquier nacionalidad son bienvenidos (no es necesario ser latino).

Muchas gracias,

Miembros del consejo del LCPG

LCPG CORNER

Ajude estudantes e patologistas latinos: junte-se ao LCPG

Prezados membros e seguidores da Fundação Davis/Thompson (DTF),

Se você está interessado em ajudar a melhorar o acesso à educação na área de patologia veterinária para veterinários e estudantes na América Latina, esta mensagem é para você.

O "Grupo Latino de Patologia Comparada" (https://davisthompsonfoundation.org/latin-comparative-pathology-group/) é uma divisão da DTF cujo principal objetivo é promover a educação em patologia veterinária na América Latina.

Este objetivo é alcançado por meio da organização de seminários, workshops e cursos ministrados em inglês, espanhol e português nos países latino-americanos e pela concessão de bolsas de estudos para médicos veterinários e estudantes residentes na região para facilitar a participação em cursos e congressos nos Estados Unidos (por exemplo, a reunião anual do ACVP). Além disso, o grupo ajuda a estabelecer conexões profissionais para estágios e orienta o processo de inscrição de veterinários latinos em programas de residência e pós-graduação em patologia veterinária.

Essas atividades são possíveis graças ao aporte financeiro dos próprios membros do grupo, que pagam uma anuidade cujas taxas atuais variam de US$ 15 a US$ 50, dependendo se o candidato é estudante ou profissional e onde mora. A melhor maneira de ajudar é se tornar um membro. Para isso, acesse o site da DTF para efetuar o pagamento correspondente com cartão de crédito (https://1drv.ms/w/s!ArSfd33WDOc9gsY6Ti7c3OUceoQ0mg?e=J2shyf) e em seguida envie um e-mail para lcpgsecretary@gmail.com para que sua adesão seja confirmada.

Se você leu até aqui, não perca esta oportunidade de nos ajudar. Membros de qualquer nacionalidade são bem-vindos (não é necessário ser latino).

Obrigado,

Membros do Conselho do LCPG

LCPG CORNER

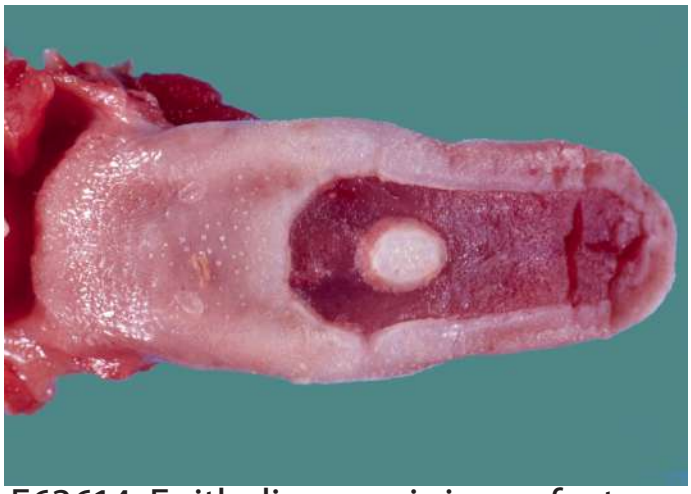
Regístrese aquí

MISCELLANEOUS ANNOUNCEMENTS

1000 new images have been added to Noah's Arkive, donated by Dr Roger Kelly, University of Queensland, Australia:

Look them up!

Image IDs: F63602 to F64600
Upload date: 1-20-23



F63614: Epitheliogenesis imperfecta, tongue, pig

F63675: Gastric gasterophilosis, stomach, horse

MISCELLANEOUS ANNOUNCEMENTS

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

MISCELLANEOUS ANNOUNCEMENTS

Fifteen years after the release of the 3rd edition of the already classic "Doenças de Ruminantes e Equídeos" (Diseases of Ruminant and Horses), the 4th edition of this great Portuguese-language book was published in November 2022 by MedVet Livros (www.medvetlivros.com.br)

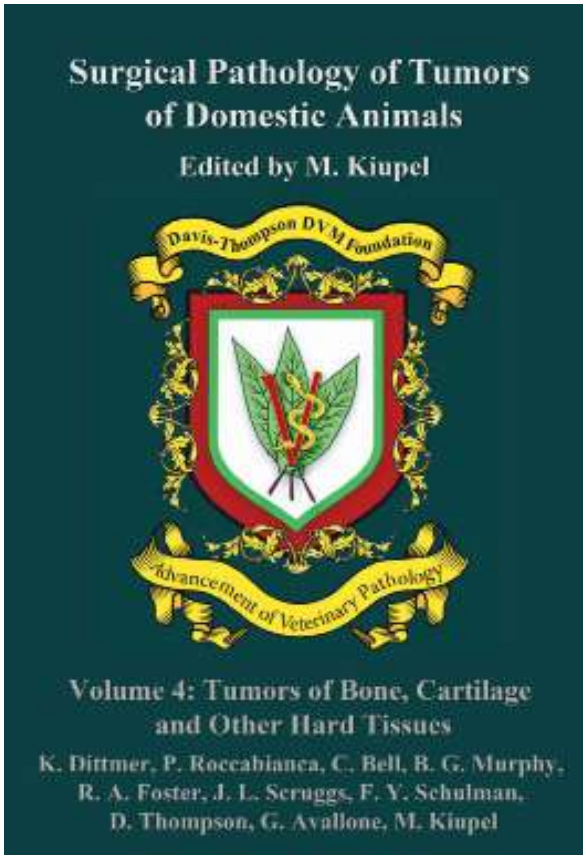
FOURTH EDITION

DOENÇAS DE RUMINANTES E EQUÍDEOS

DISEASES OF RUMINANTS AND HORSES

THE BOOK WAS EDITED BY AN OUTSTANDING GROUP OF LATIN AMERICAN PATHOLOGISTS LED BY WORLD RENOWN DR FRANKLIN RIET-CORREA. HIS CO-EDITORS INCLUDE WELL KNOWN PATHOLOGISTS ANA LUCIA SCHILD, RICARDO LEMOS, JOSÉ RENATO BORGES, FÁBIO S. MENDONÇA AND MIZAEL MACHADO. NINETY ONE CO-AUTHORS CONTRIBUTED TO THIS NEW EDITION. THE NEW EDITION OF THIS TEXTBOOK PROVIDES UP TO DATE PRACTICAL INFORMATION PRESENTED IN A DIDACTIC MANNER, WITH SPECIAL EMPHASIS ON DIAGNOSIS, CONTROL AND PROPHYLAXIS OF THE MAIN DISEASES OF RUMINANTS AND HORSES OCCURRING IN BRAZIL.

MISCELLANEOUS ANNOUNCEMENTS



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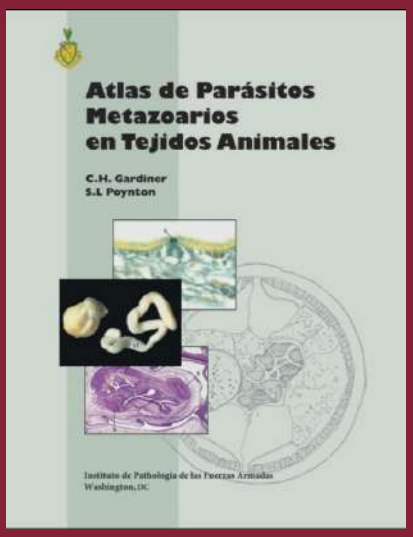
Davis-Thompson Foundation Pathology Externship

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 off-campus experience. For more information, contact Dr. Jim Britt, **jobritt@sbcglobal.net;** 501-912-1449.



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