Kansas State Veterinary
DIAGNOSTIC LABORATORY

SEPTEMBER 2014

DIAGNOSTIC *INSIGHTS*

KSVDL Continuing Education Conference:
Changes in Veterinary Antibiotic Regulations: What these will mean to the Practitioner

The FDA has instituted more restrictive antimicrobial-use regulations that will instantly change how you, the veterinary practitioner, will practice in the near future. On Nov. 8, 2014, the Kansas State Veterinary Diagnostic Laboratory will sponsor a national continuing education conference that will focus on the key effects these new regulations will have on the future use of antimicrobials in veterinary practice. This national conference will include an expert panel of speakers including: international practitioners who have been under similar antimicrobial regulations for many years; academic pharmacologists; U. S. regulatory authorities, and various producer advocates. While the presentations and interactive discussions will focus primarily on the impact the new antimicrobial use regulations will have on the practicing veterinarian, the conference is open to any interested individual.

The Conference will be held at the Hilton Garden Inn in Manhattan.

In this Issue

KSVDL CE Conference	1
Skin Infections in Dogs	2
KSVDL Rabies Laboratory	3
KSVDL Test Updates	4
BVD Symposium	5
Continuing Education	6
Holiday Schedule	6

Accredited by the American Association of Veterinary Laboratory Diagnosticians

TO SET UP AN ACCOUNT GO TO:
www.ksvdl.org/accounting-and-billing/

Schedule of Events - Saturday, November 8, 2014

8:00 a.m. Registration Opens
9:00 a.m. Welcome - Gary Anderson
9:10 a.m. Antibiotic Stewardship: What does that really mean? - Brian Lubbers
10:10 a.m. Increasing Antimicrobial Resistance - Implications for the Veterinary Practitioners in Germany and other European countries - Siegfried Moder
11:00 a.m. Break
11:10 a.m. Increasing Antimicrobial Resistance - Implications for the Veterinary Practitioners in Germany and other European countries - Siegfried Moder
12:00 p.m. Lunch: Update from Capitol Hill: The Beef Industry's Perspective on Washington DC - Kristina Butts (NCBA)
1:00 p.m. How New Antibiotic Rules Impact Cowboys - Matt Teagarden - KLA
1:30 p.m. FSIS - Residue Testing Methods - David Goldman - USDA-FSIS Presenter
2:20 p.m. Break
2:30 p.m. Regulations and the Data Behind Them -Michael Apley
3:00 Practitioner round table: How do practitioners see these new regulations changing their practices?
4:00 Adjourn

Please follow this link for registration: www.ksvma.org or call the Kansas Veterinary Medical Association at 785-234-0461.

Opportunistic Mycobacterial Skin Infections in Dogs

By Dr. Gordon Andrews

A 3-year-old neutered male boxer dog was presented for evaluation of two raised non-ulcerated skin nodules. The attending veterinarian was suspicious of round cell tumors, so both were excised and submitted for histopathological examination. Histologically, both lesions were identical and were characterized by a well delineated area of the dermis in which there were multifocal to coalescing pyogranulomas (Figure 1). Individual pyogranulomas were centered on a clear vacuole and/or small numbers of neutrophils, further surrounded by a zone of epitheloid macrophages, and finally by a zone of lymphocytes, plasma cells and a few macrophages (Figure 2). Special staining revealed acid fast positive bacilli consistent with mycobacteria within the clear vacuoles in the center of the pyogranulomas (Figure 3).

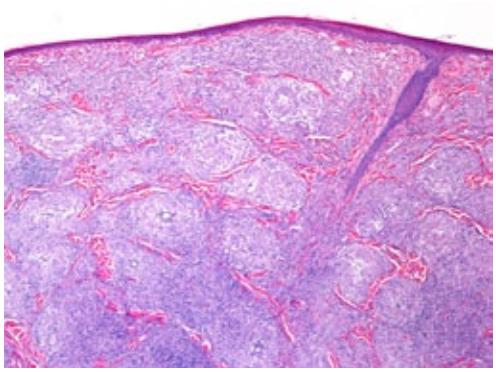

Figure 1

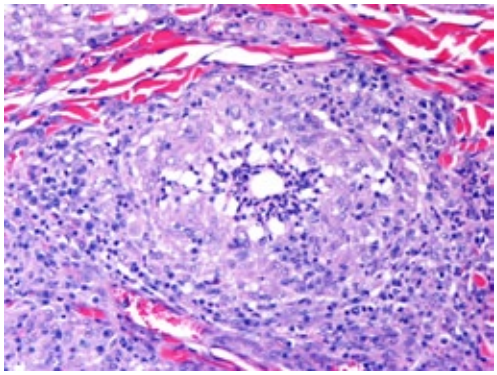

Figure 2

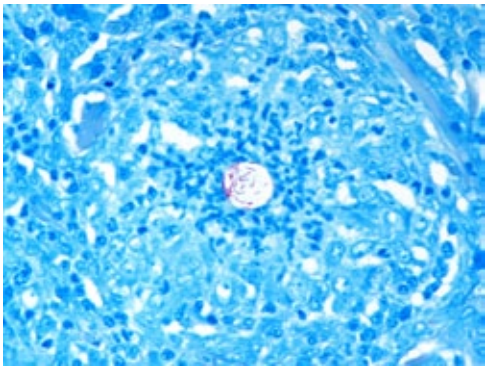

Figure 3

This skin disease is referred to as opportunistic mycobacterial granuloma, atypical mycobacteriosis, or nontuberculous (referring to mycobacteria other than *M tuberculosis* or *M bovis*) mycobacterial infection. Infection is usually caused by rapidly growing (by in vitro culture) mycobacteria found in the environment in soil or fresh water. Infection is thought to occur by traumatic introduction of bacteria into the skin or subcutis. Gross lesions consist of single or grouped cutaneous and subcutaneous nodules which may ulcerate and drain. Differential diagnoses for the gross lesions are numerous and include other bacterial or fungal infections, folliculitis, furunculosis, foreign body reactions, and cutaneous neoplasms, among others. Diagnosis can be made by cytologic examination of aspirates or exudate with special staining, histopathology, and routine and special culture techniques. Because the differential diagnosis often includes neoplasia, we frequently receive the entire lesion for histopathology.

Canine Leproid Granuloma is a relatively newly described skin disease caused by an as-yet unnamed mycobacterium which has not been cultured, but has been identified by DNA sequencing as a species closely resembling members of the Mycobacterium simiae group which contains many slow growing saprophytic species. Gross lesions are single or multiple cutaneous to subcutaneous nodules that range from 2 mm up to 5 cm with larger lesions alopecic or ulcerated. Histologic lesions are pyogranulomatous dermatitis/panniculitis with acid fast bacteria found within

Continued at bottom of page 3

The Kansas State Veterinary Diagnostic Laboratory Rabies Laboratory

The KSVDL Rabies Laboratory is the primary diagnostic center for animal rabies cases from Kansas and Nebraska. More than 2,000 rabies suspects are tested annually. The laboratory determines the variant of rabies virus present by monoclonal antibody analysis, or genetic sequencing of all positive specimens from Kansas and Nebraska, and six other states.

The Rabies laboratory is **one of the highest volume rabies serology laboratories in the world** handling over 72,000 human and animal samples each year; and only EU/OIE approved laboratory for pet export testing (besides the U.S. military FAVN Lab) in the U.S. Helping people at risk of rabies exposure adhere to the international recommendations for rabies vaccination monitoring, and providing serological confirmation of rabies vaccination response in pets traveling to rabies-free areas are major efforts of the laboratory. The methods performed are the Fluorescent Antibody Virus Neutralization (FAVN) and the Rapid Fluorescent Focus Inhibition Test (RFFIT). The FAVN is performed exclusively for pet travel and the RFFIT for all other rabies antibody testing.

The Laboratory collaborates with commercial and research organizations to provide highly technical testing to qualify new applications of existing biologics and of novel rabies biologics for humans and domestic and wild animals.

Recently, an independent consultant assessed the laboratory against GLP standards and found it to largely meet the requirements. The QA program was amended for study review steps to bring the Rabies laboratory to complete GLP compliance, a requirement for many pharmaceutical studies.

Today the KSVDL Rabies laboratory employs 16 full-time and 5 part-time employees. Licensure held by the rabies laboratory include: CLIA (Clinical Laboratory Improvement Amendment), AAVLD, various State Health Departments, and EU approval for rabies serology (pet travel).

Dr. Robert Flahart, CLIA Director
Susan Moore, Managing Director
Dr. Dale Claassen, NY State Department of Health Director
Chandra Gordon, Quality Practices Manager

For more information, visit **http://www.ksvdl.org/rabies-laboratory** or contact us at 785-532-4483

Skin infections in dogs | *Continued from page 2*

macrophages rather than in the vacuoles in the center of pyogranulomas as in the opportunistic mycobacterial granulomas caused by rapidly growing mycobacteria. Nodules occur most commonly on the dorsal pinna and head, with occasional involvement of the distal extremities, especially the forelimbs, but have also been reported on the trunk and rump. Short coated breeds account for over 90% of reported cases with Boxers and Boxer crossbreeds accounting for half of the cases. Other breeds include the Staffordshire Terrier, Doberman Pinscher, and German Shepherd. Infection is thought to occur by traumatic introduction of the organism into the skin, or perhaps by biting insects or arthropods. Differential diagnoses and diagnostic methods are the same as for the other opportunistic mycobacterial granulomas.

Definitive diagnosis of opportunistic mycobacterial skin infections relies on identification of the causative organism. Identification can be performed by culture on fresh tissue for those species of mycobacteria with known in vitro growth requirements. Slow growing species, and in the case of the mycobacteria that cause leproid granuloma, require PCR and DNA sequencing for identification. These tests are available at some specialty testing laboratories, and can be performed on either fresh or formalin fixed tissue.

KSVDL Test Updates and Information

Bovine Respiratory PCR panel — FALL DISCOUNT

For the months September through December, KSVDL is offering a 20% discount on the bacterial and viral respiratory PCR panels. The bacterial panel detects *M. haemolytica*, *P. multocidia*, *H. somni*, and *B. trehalosi*. The viral panel detects, BVDV, BRSV, BCoV and IBR.

The test can be completed on either tissue (lymph node or lung) or nasal/pharyngeal swabs. Only one sample is required as a single sample can be utilized for both the viral and bacterial PCR panels. The swab must be either a sterile swab moistened with saline or **a swab in viral transport media**. A "gel" bacterial swab is not acceptable.

Fall Discount Cost: $33.00 for either bacterial or viral PCR panel or $66.00 for both panels.

Anaplasmosis PCR

The KSVDL has developed a PCR specifically targeting ***Anaplasma marginale***. **Individual or pooled sample testing can be requested.** For pooling, each animal's sample must be collected in a separate blood tube. The laboratory will then pool in groups up to 5 animals. The appropriate specimen is **blood in an EDTA tube (purple top)**.

Cost: $30/sample if desiring individual animal testing. Pooled samples will be charged $30/pool

Individuals within a positive pool that are then tested will be charged at $15/each.

New Canine Diarrhea Pathogen Panel Test OPTIONS

A multiplex real-time PCR panel to identify various bacteria and viruses frequently associated with canine diarrhea cases plus a comprehensive fecal flotation is now available.

Targets: Fecal Parasites: Qualitative fecal flotation

Viral: Canine enteric coronavirus (CECoV); Canine parvovirus 2 (CPV2); Canine distemper virus (CDV)

Bacterial: Salmonella spp.; Lawsonia spp.; *Camplyobacter jejuni*; *Clostridium perfringens enterotoxin A*; *Clostridium difficile ToxA*; Clostridium difficile ToxB

Samples: 2 gm of stool, in a sterile container, on cold packs, shipped by overnight.

Cost: **Comprehensive Diarrhea Panel:** Parasite, Viral and Bacterial: $97
Viral & Bacterial panel: $87
Bacterial panel only: $64
Viral panel only: $32

Test days: Monday through Friday

Estimated turnaround time: 1-2 days

For more information on these and other tests, visit our website www.ksvdl.org or contact KSVDL Client Care at 866-512-5650 or clientcare@vet.k-state.edu

You are invited to a BVD symposium!

Please join us as our guest on Oct. 13, 2014 at the Sheraton Kansas City Hotel-Crown Center for a one-day symposium on BVD.

Symposium title: "BVDV Eradication Reality or Myth?"

Program:

BVDV Epidemiology and Economic Impact: The science and economics of why we can and need to eradicate BVDV
- Dr. John VanLeeuwen - University of Prince Edward Island, Canada

Vaccination and diagnostics - Where do producers start?
- Dr. Tom Shelton, Merck Animal Health

BVDV Diagnostic Options for Practitioners and Producers: How KSVDL offers guidance for using PCR to prevent and control BVDV On US beef operations
- Dr. Gregg Hanzlicek, KSVDL

BVDV Regional Eradication Success: Michigan's Upper Peninsula
- Dr. Dan Grooms, Michigan State University

Keeping BVDV Out: Proactive detection of HoBi-Like virus with Real-time PCR
- Dr. Johnny Callahan - Life Technologies
- Simone Silveira – Universidade Federal do Rio Grande do Sul, Brasil

Beef and dairy operation BVDV biosecurity vulnerability points
- Dr. Dan Thomson, Kansas State University

The KSVDL welcomes you, your staff and clients to this symposium as our guests.

To register online, go to: **https://www.eventbrite.com/e/bvdv-eradication-symposium-tickets-12024659079** and enter the Code: **KSVDL2014**

Follow the link to the KSVDL YouTube™ Channel!
www.youtube.com/channel

Follow us on Twitter!

KSVDL Specializations

DIRECTOR: DR. GARY ANDERSON
785-532-4454

BACTERIOLOGY: DR. BRIAN LUBBERS
785-532-4012

COMPANION ANIMAL OUTREACH: DR. BILL FORTNEY
785-532-4605

CLINICAL PATHOLOGY: DR. LISA POHLMAN
785-532-4882

COMPARATIVE HEMATOLOGY: DR. GORDON ANDREWS
785-532-4459

FIELD INVESTIGATIONS: DR. GREGG HANZLICEK
785-532-4853

HISTOPATHOLOGY: DR. JAMIE HENNINGSON
785-532-4461

IMMUNOLOGY: DR. MELINDA WILKERSON
785-532-4818

MOLECULAR DIAGNOSTICS: DR. RICHARD OBERST
785-532-4411

PARASITOLOGY: DR. PATRICIA PAYNE
785-532-4604

RABIES: SUSAN MOORE, MS, MT(ASCP)SBB
785-532-4200

RECEIVING & NECROPSY: DR. KELLI ALMES
785-532-3995

SEROLOGY: DR. RICHARD HESSE
785-532-4457

TOXICOLOGY: DR. DEON van der MERWE
785-532-4333

VIROLOGY: DR. RICHARD HESSE
785-532-4457

Developing, Delivering Accurate, Innovative Diagnostic Services

The mission of the Kansas State Veterinary Diagnostic Laboratory (KSVDL) is to develop and deliver accurate, innovative, and timely diagnostic and consultative services to the veterinary and animal health community while providing support for teaching, training and research programs.

1800 Denison Avenue
Manhattan, KS 66506

Phone: 785.532.5650
Toll Free: 866.512.5650

Continuing Education

www.vet.ksu.edu/CE/Conference.htm

October 13, 2014

Bovine Viral Diarrhea Virus Eradication: Reality or Myth?

Sheraton Crown Center
Kansas City, Missouri

To register online, go to: https://www.eventbrite.com/e/bvdv-eradication-symposium-tickets-12024659079 and enter the code: KSVDL2014

November 8, 2014

Changes in Veterinary Antibiotic Regulations: What These Will Mean to the Practitioner

Hilton Garden Inn
Manhattan, Kansas

For registration, go to: www.ksvma.org or call the Kansas Veterinary Medical Association at 785-234-0461.

Test Results and Schedules

Laboratory results available On-Line All The Time!

KSVDL hours:

Thanksgiving: Closed Nov. 27-28, Open Nov. 29
Christmas: Open all day on Dec. 24; Closed Dec. 25 and Dec. 26; Open Dec. 27
New Year's Day: Closed Jan. 1, 2015

To receive this newsletter by e-mail, contact: ksvdloutreach@vet.k-state.edu.

KANSAS STATE UNIVERSITY