



Vet Pulse

IMPORTANT INFORMATION FOR OUR REFERRING VETERINARIANS

From the Editor

We are moving forward on a number of initiatives. This fall we met with local practitioners and representatives of the IVMA to discuss ways that we can enhance communications and services with our referring veterinarians. It was a beneficial discussion and we are most appreciative of everyone's candor and suggestions. The hospital, through Dr. David Wong's leadership, is finalizing a multi-level plan on a number of customer service-related fronts.

In January, we implemented a new telephone message that will allow referring veterinarians to have priority answering service when calling the hospital. With this direct line, we hope to shorten your wait times and provide more personal service.

In February, we welcomed Dr. Tom Johnson as our new Director of Hospital Operations. We are currently recruiting for faculty for the following positions in our Department of Veterinary Clinical Sciences: cardiology, internal medicine, neurology, and radiology.

As a reminder, we do have electronic medical records that referring veterinarians can log into to see their patients' radiographs, lab work, and case summaries. To request a login and password, go to: <https://clinic-db.cvm.iastate.edu/cvis/eemr.rb> If you already have your login and password, go to <rdvm.cvm.iastate.edu>.

In the meantime, if you have any clinical questions that you would like to see us address in a future issue of *Vet Pulse*, please let us know.

Best wishes for a safe and productive Spring season!

Dr. Rod Bagley, Chair of the
Department of Veterinary Clinical Sciences

Dr. Tom Johnson, Director of
Hospital Operations, LVMC

FEATURE CASE:

A Problem Down Under A Case of Cloacal Prolapse in a Parrot

BY **Bianca Zaffarano, DVM**

Primary Care and Exotic Companion Animal Medicine

Patient: 12-year-old Timneh African Grey parrot, gender unknown (the majority of parrots are not sexually dimorphic).

Presenting Complaint: Intermittent cloacal prolapse of two months duration.

Physical Exam: Feathers stained around cloaca. All else within normal limits.

Clinical Findings:

- **CBC:** Basophilia
- **Chemistry panel:** Within normal limits, except CPK 925 (165- 412) IU/L
- **DNA sexing:** Male
- **Fecal Gram Stain:** 80% Gm + cocci/rods > Gm- rods
- Numerous budding yeast presumed to be candida

History and Husbandry:

Parrot lives with a cockatiel, a dog, and a couple, one of whom stays at home with the bird. Diet consists of free-fed table foods, treats, seeds, pastas and nuts. The bird is potty trained and comes out of the cage in the morning to spend time with the female owner and on a play stand after he defecates and urinates on cue in the morning.

Instructions:

- **Diet Change:** Switch to 80% pelleted diet, 15% vegetables, 5% fruits
- **Stop reinforcing potty training:** Take bird out of cage in a.m. without reinforcing potty training as necessary first.



- **Organic, unfiltered acetic acid (vinegar) 1 tsp/4 oz drinking water + few ggts honey** as only source of drinking water to treat candidiasis
- **Culture and Sensitivity of cloaca:** enterobacter species, heavy growth
- **Rx:** Trimethoprim-sulfamethatrim orally twice daily until reculture
- **Recheck 2 weeks**

Two weeks later the bird presented with a one-inch cloacal prolapse. The prolapse was reduced under anesthesia, and bilateral transverse cloacal sutures were placed. Radiographs were taken to help eliminate the possibility of a coelomic mass or pathology.

Sutures were removed after two weeks. Three months later, the bird represented for re-prolapse with flaccid vent lip tone. The owner had been manually reducing the prolapse over a period of time, and had not had time to work on diet transition nor behavior modification.

 **EXPANDED CONTENT ONLINE**
>> Visit vetmed.iastate.edu/VetPulse to read more discussion and management on this case.

SPOTLIGHT:

Small Animal Toxicology

BY **Steve Ensley, DVM, PhD**
*Veterinary Diagnostic and Production
Animal Medicine*

Most veterinarians assume we only do analyses of food animal cases because of our national presence in food animal diagnostics, but we offer routine and custom analytical services for small animals, as well. Our Veterinary Diagnostic Laboratory toxicology services include a variety of tests and panels for toxic metals, plants, rodenticides, pesticides, drugs and much more. If a practitioner suspects that the pet has ingested a toxin, but may not know what compound, we offer a gas chromatograph/mass spectroscopy analysis of unknown compounds that is identical to what is seen on CSI (Crime Scene Investigations) television programs.

Small animal practitioners can find a wealth of information about the tests we offer, pricing, turnaround time, and submission guidelines on our website (vetmed.iastate.edu/diagnostic-lab). We are also available for consultations by contacting me at sensley@iastate.edu or Dr. Wilson Rumbelha at rumbelha@iastate.edu.

UPCOMING

CE AT ISU LLOYD VETERINARY MEDICAL CENTER

>> **March 26-27, 2015, American Farriers Association Certification**

>> **March 28-29, 1st Annual ISU Equine Hoof Care Competition & Clinic**

- Two-day clinic for veterinarians and farriers.
- Topics covered in the program include modern shoeing materials, caudal heel pain vs. navicular syndrome — live demonstrations and wet labs.

Approved by the Iowa Board of Veterinary Medicine for 6.5 CE credits.



Online pre-registration open until March 20.

For more information visit:
vetmed.iastate.edu/CE/equine-hoof-care-clinic

FEATURE TOPIC:

Deciduous Teeth Extractions

BY **Brenda L. Mulherin, DVM**
Dentistry

Q When should deciduous teeth be extracted in puppies and kittens?

A While it is common to wait until the time of an animal's spay or neuter to extract persistent deciduous teeth, it is not in our patient's best interest to do so. An attempt to save the owner an anesthetic episode may jeopardize the growth and development of the oral cavity and cause the newly erupting permanent teeth to erupt in an abnormal position.

Persistent deciduous teeth are a common physical exam finding in toy and small breed dogs but can affect any puppy or kitten. When puppies and kittens present for their rabies vaccination at approximately 12-16 weeks of age, a close evaluation of the oral cavity should be performed. The permanent incisors should be erupting, and eruption of the permanent canine teeth may also be seen. If persistent deciduous teeth are left within the oral cavity when the permanent teeth are erupting, their presence will force the permanent teeth to erupt in an abnormal position.

Persistent deciduous teeth also disrupt the self-cleansing mechanism of the oral cavity, promoting gingivitis and periodontal disease of the affected teeth. The close association of the two teeth and the reduced interdental space collects food, hair, and debris. This causes increased plaque and calculus



A persistent deciduous left maxillary canine tooth has resulted in gingivitis and collection of debris in the interdental space.



Persistent deciduous right and left mandibular canine teeth have resulted in linguoversion of the right and left permanent canine teeth. Also note the missing right and left mandibular third incisors.

accumulation which elicits an inflammatory response leading to attachment loss of the supporting tooth structure.

Key Point:

As soon as the permanent tooth begins to erupt into the oral cavity, the deciduous tooth needs to be surgically extracted. Extraction may allow the permanent tooth to erupt into the correct position and promote periodontal health of the tooth.

>> Submit a question at: VetPulse@iastate.edu

Farrier Services

Doug Russo, CJF, AAPF, joined the Lloyd Veterinary Medical Center staff in October.

About Our Farrier

- 16 years experience
- AAPF accredited
- AFA certification tester
- AAEP short course instructor
- Skilled in forge work and all aspects of shoeing/trimming



About our services

- Basic horse shoeing
- Therapeutic hoof trimming/shoeing

>> To schedule routine and emergency farrier appointments call 515 294-1500.



Equine Corneal Stromal Abscesses

BY **Kyle Tofflemire, DVM**
Resident, Ophthalmology

Rachel Allbaugh, DVM, MS, DACVO
Assistant Professor, Ophthalmology

Corneal stromal abscesses are uncommon but compose up to 9% of equine cases presented to veterinary ophthalmologists. A stromal abscess occurs when an infectious agent is sealed within the corneal stroma following epithelialization of a corneal ulceration. Over several days or weeks, the embedded infectious agent causes ocular pain (Figure 1) and a profound inflammatory response characterized by cream-colored or yellow corneal infiltrate and mild to severe secondary anterior uveitis (Figure 2-4). Fluorescein staining is negative because the corneal epithelium remains intact.

Diagnosis of corneal stromal abscesses is based on their characteristic clinical appearance and profound ocular discomfort with or without a recent history of corneal ulceration. An important differential diagnosis is primary uveitis, which may share some signs of stromal abscesses but lack the distinct yellowish corneal infiltrate. Notably, topical anti-inflammatory therapy is contraindicated in cases of stromal abscesses due to the underlying infectious etiology.

Definitive identification of the etiologic agent is challenging, and non-surgical diagnostic sampling of abscesses is not practical. Fungal agents, however, are implicated in 50% of cases. Because the etiologic agent is not confirmed in most cases, empirical therapy must be directed at common infectious agents and control of secondary uveitis.

Penetration of topical ophthalmic antimicrobial medications through the corneal epithelium to the stromal abscess is vital for effective therapy. Medications with sufficient corneal epithelial penetration include voriconazole, miconazole, itraconazole, chloramphenicol, and fluoroquinolone antibiotics. Frequent (4-6 times daily) application of the selected antibiotic and antifungal medications is initially necessary. Topical ophthalmic atropine sulfate 1% and oral flunixin meglumine are also warranted to control secondary uveitis, which may cause irreparable intraocular damage if unmanaged. A sustained treatment period of 6-8 weeks is typically necessary for successful medical management.



Figure 1a and 1b. Horses manifesting blepharospasm and epiphora due to ocular pain. Note the upper eyelashes are abnormally directed downward as a common marker of discomfort.

Resolution of stromal abscesses relies heavily on corneal vascularization. When corneal vascularization reaches the stromal abscess, size and density of the abscess progressively decreases leading to resolution. Failure to vascularize, persistence of the abscess during medical therapy, and/or refractory uveitis with persistent discomfort indicate the need for surgical intervention. Microsurgical techniques to resect stromal abscesses are available at Lloyd Veterinary Medical Center upon referral.

Prognosis for corneal stromal abscesses is fair to good with aggressive and carefully selected medical therapy. Timely referral for surgical intervention may offer a similarly favorable outcome in cases refractory to medical treatment.

Key Point:

Corneal stromal abscesses may occur following epithelialization of corneal ulcers and are characterized by a distinct, fluorescein-negative, cream-colored or yellow corneal opacity with concurrent secondary uveitis. Both fungal and bacterial agents are implicated in the disease and successful medical therapy requires prolonged use of antimicrobials capable of penetrating through the intact corneal epithelium. In refractory cases, microsurgical resection may be necessary to prevent vision loss or loss of the eye.

Corneal Stromal Abscesses

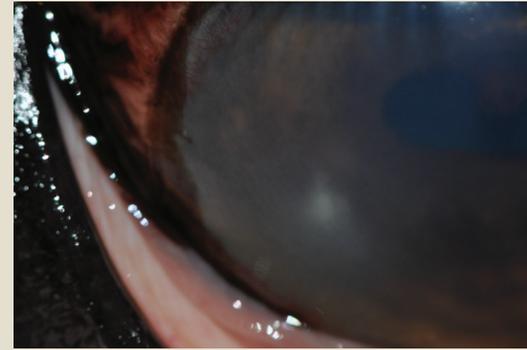


Figure 2. Small, faint yellow, fluorescein-negative corneal opacity consistent with a stromal abscess. Dorsolateral corneal vascularization and miosis, consistent with uveitis, are also present.

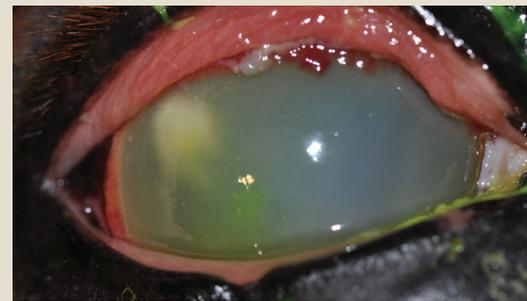


Figure 3. Moderately sized, dense yellow, fluorescein-negative corneal opacity consistent with a stromal abscess. Also note moderate diffuse corneal edema, dorsal corneal vascularization approaching the abscess, and moderate conjunctival hyperemia and chemosis. The pupil, which cannot be visualized in this image, was miotic consistent with uveitis.



Figure 4. Extensive dense yellow, fluorescein-negative corneal opacity consistent with a large stromal abscess. Severe corneal vascularization is visible dorsally. This corneal stromal abscess was diagnosed following removal of a third eyelid flap that was placed for a prior corneal injury.

IOWA STATE UNIVERSITY

Lloyd Veterinary Medical Center

1600 S. 16th Street | Ames, IA 50011

CONNECT WITH US

Hixson-Lied Small Animal Hospital
515 294-4900

Equine & Food Animal Medicine
& Surgery Hospital
515 294-1500

To subscribe to an electronic version
of *Iowa State University Vet Pulse* visit:
vetmed.iastate.edu/VetPulse

DID YOU
KNOW?

The equine hospital at Iowa State is one of the few veterinary schools in the region to have an in-house farrier.

IOWA STATE UNIVERSITY
Lloyd Veterinary Medical Center

Vet Pulse

INSIDE THIS ISSUE:

- 1 A Case of Cloacal Prolapse in a Parrot
- 2 Small Animal Toxicology
- 2 Deciduous Teeth Extractions
- 2 Farrier Services
- 3 Equine Corneal Stromal Abscesses



WEB-EXCLUSIVE

Visit vetmed.iastate.edu/VetPulse
to read the full online article

- Tachyarrhythmia in a Dog

The Pharmacy Dose Important Topics in Veterinary Pharmacy

BY Jake Vogel, PharmD, MBA

As of October 6, 2014, ALL hydrocodone-containing products are classified by the United States Drug Enforcement Agency as Schedule II controlled substances. In Iowa, you may issue a prescription for up to a 90-day supply of a Schedule II controlled substance. The issuance of refills for a Schedule II controlled substance is prohibited. After issuance, prescriptions for Schedule II controlled substances are valid for up to 6 months after the date of issuance.

As of August 18, 2014, ALL tramadol-containing products are now classified by the United States Drug Enforcement Agency as Schedule IV controlled substances. In Iowa, you may issue a prescription for up to a 90-day supply of a Scheduled III, IV, or V, with the written quantity and refill quantity total not exceeding a 6 month supply from the date of issuance. Scheduled III, IV, and V controlled substance prescriptions are valid for up to 6 months after the date of issuance.

There are new proposals being considered by the Iowa Board of Pharmacy concerning compounding practices that are anticipated to be decided on at

some point in 2015. One proposal relevant to veterinary compounding practices being considered is the following: Veterinary compounded preparations may be sold to a veterinary practitioner for “office use only” if compounded by an Iowa-licensed pharmacy and sold directly to the veterinary practitioner by the compounding pharmacy. This will be updated in more depth as new information becomes available in future issues.

>> For additional information please
contact the pharmacy at **515 294-2427**.

EDITORIAL BOARD

Tom Johnson, DVM, *Director of Hospital Operations, LVMC*
Rodney S. Bagley, DVM, DACVIM (Neurology)
Albert Jergens DVM, MS, PhD, DACVIM (Small Animal)
Patrick Gorden, DVM, DABVP (Dairy)
Karl H. Kraus, DVM, MS, DACVS
Scott McClure, DVM, PhD, DACVS (Large Animal)
Kristina Miles, DVM, MS, DACVR
Elizabeth Riedesel, DVM, DACVR
Brett Sponseller, DVM, PhD, DACVIM (Large Animal)
Wendy Ware, DVM, MS, DACVIM (Cardiology)

PRODUCTION STAFF

Heather Brewer, Tracy Ann Raef, Johnna Decker

For article inquiries or submissions email:
VetPulse@iastate.edu