



Blastomycosis

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Blastomycosis

A fungal organism found in the soil

- Endemic regions in North America include the mid-Atlantic states;
- Ohio, Mississippi, Tennessee, Missouri and the St. Lawrence River Valleys
- Great Lakes Region and the Canadian provinces of Manitoba, Quebec and Ontario
- Presence of natural water sources, and areas of sandy, moist, acidic soils rich in decaying vegetation are prime areas for the fungus and increase the risk of infection.

Blastomycosis

Clinical symptoms

- The incubation period is 5-12 weeks
- Nonspecific signs include fever, anorexia, weight loss, lethargy (40%)
- Cough, respiratory distress, ocular involvement, enlarged lymph nodes (60%)
- Cutaneous masses or draining skin lesions or lameness (25%)
- CNS signs (5%)
- Orchitis or prostatitis (<5%)

Blastomycosis

Organs affected

- Respiratory tract (88-94% of canine cases)
- Ocular involvement many times leading to enucleation
- Lymph nodes
- Skin (non healing wounds)
- Bones
- Urogenital system ,prostate and testes
- Central Nervous System

Blastomycosis

Non healing skin lesions

Rarely worsen with itraconazole
treatment



Blastomycosis Diagnosis

- Physical exam FEVER OF UNKNOWN ORIGIN
- Radiographs and advanced imaging (mri, ct, ultrasound)
- Antigen testing (EIA) of urine or any body fluids is available through MiraVista Labs . This test is highly sensitive and specific
- Antibody testing (AGID) not used much anymore
- Cytological or histopathological diagnosis
- CBC reveals inflammation
- Serum chemistry rarely reveals hypercalcemia or high globulin levels

Blastomycosis

- This is a thick-walled budding yeast form

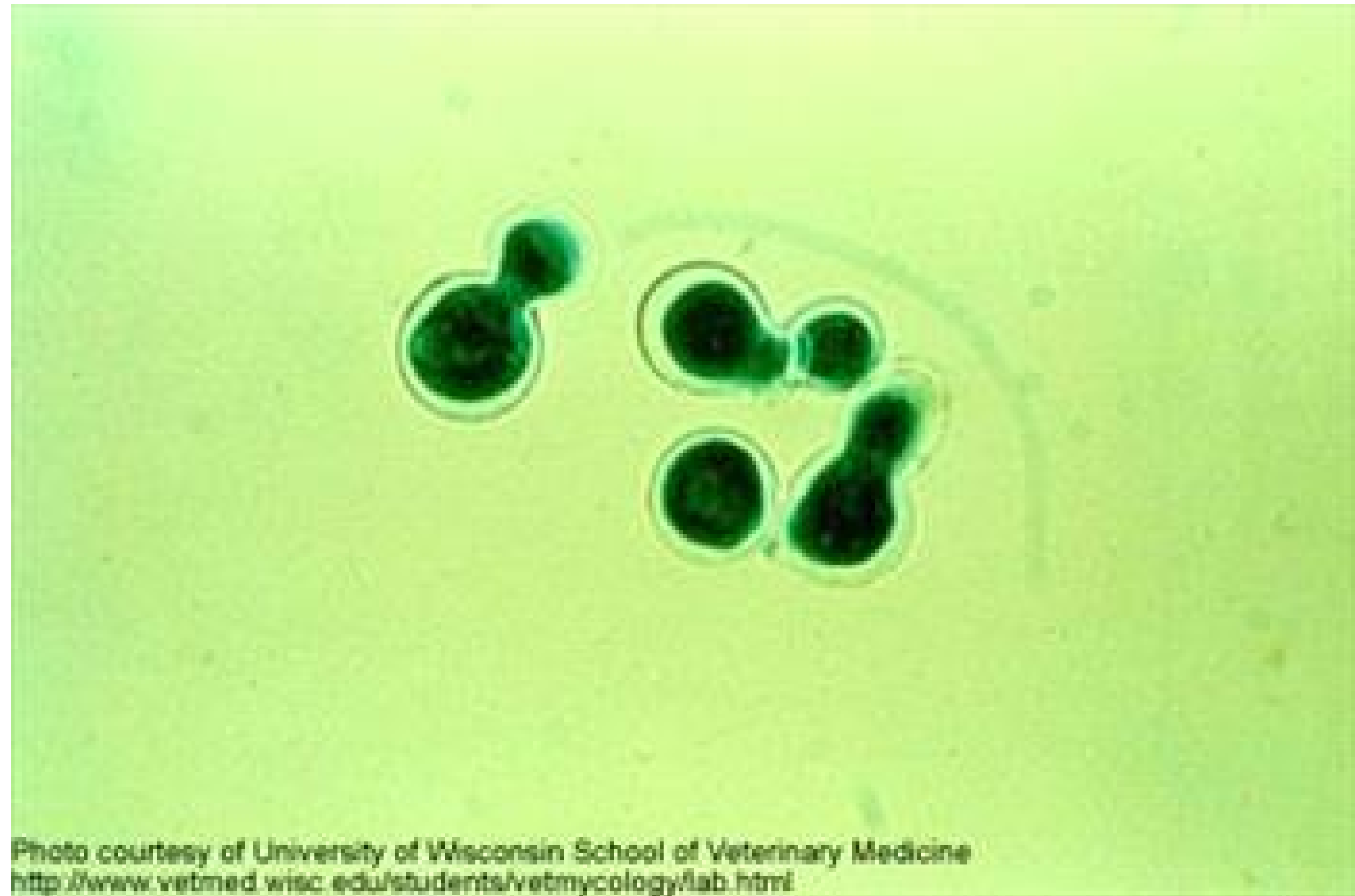
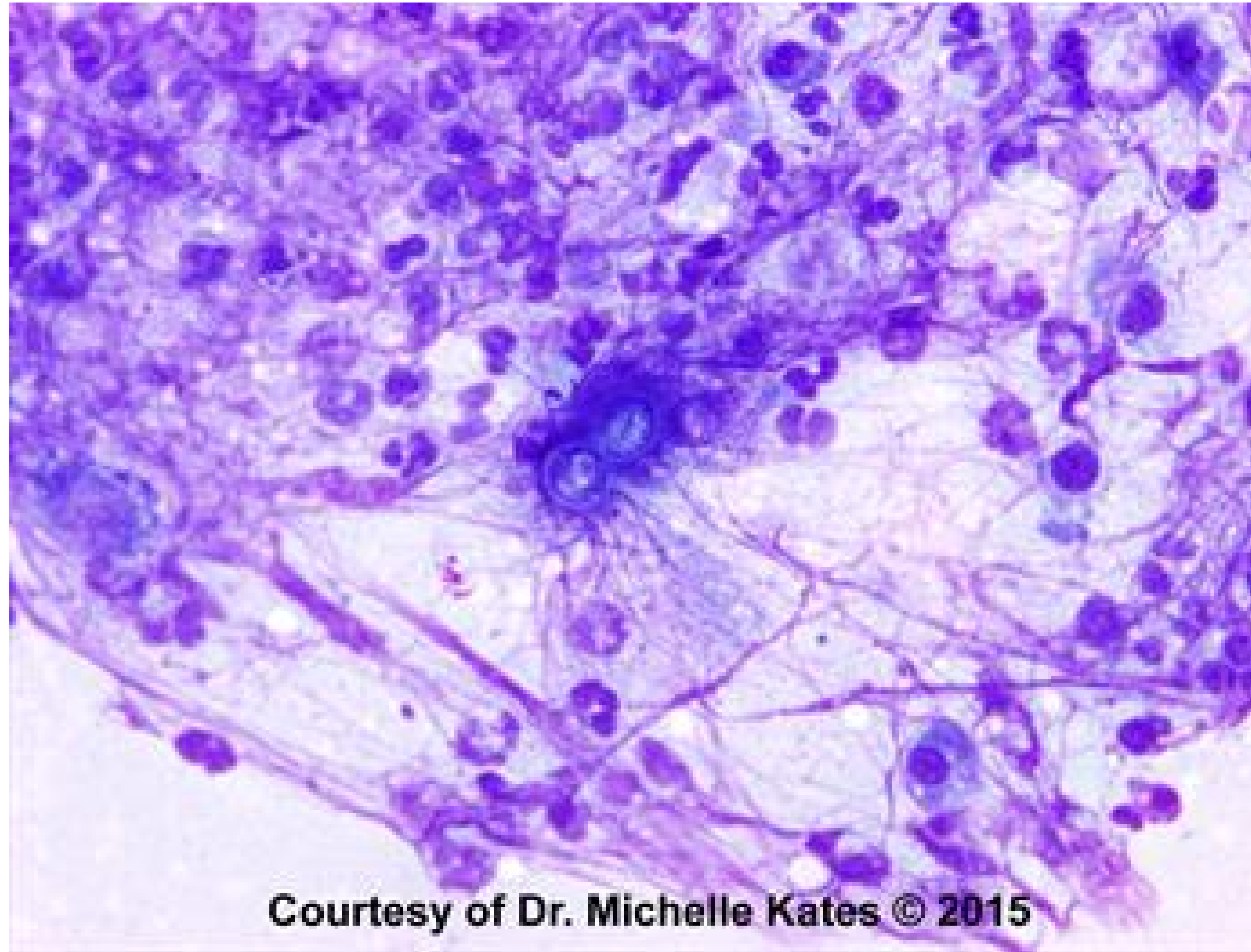


Photo courtesy of University of Wisconsin School of Veterinary Medicine
<http://www.vetmed.wisc.edu/students/vetmycology/lab.html>

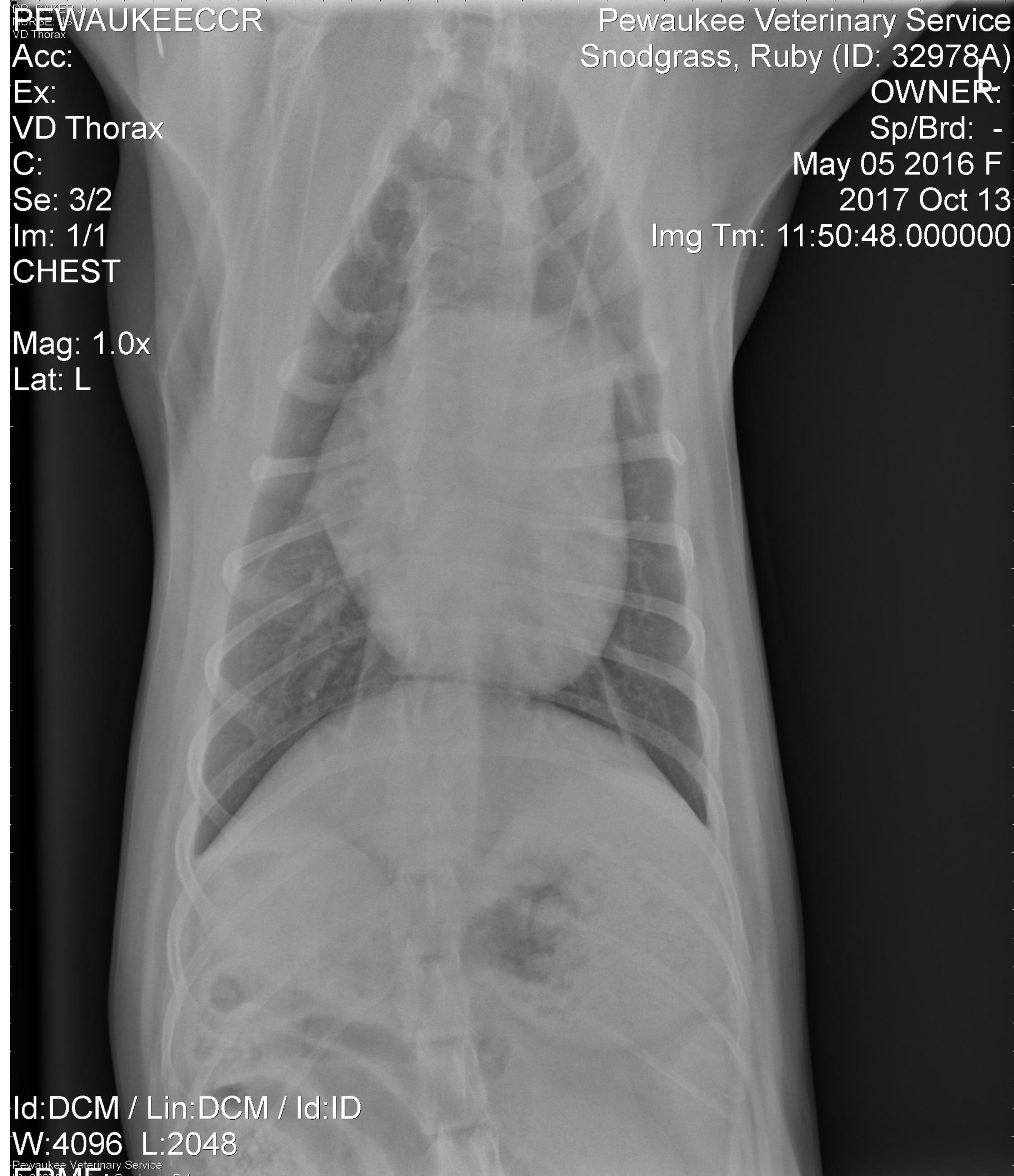
- Cytological diagnostic slide



Blastomycosis

Treatment

- Itraconazole 5-10 mg/ kg once daily with food for 2-6 months is the treatment of choice . The drug is generally given for one month beyond clinical remission.
- Fluconazole 5-10 mg/ kg once daily for 1 month past clinical signs. This drug is less effective, yet costs less and may penetrate the CNS and prostate better
- Supportive therapy with Anti-inflammatory drugs is controversial for systemic disease
- Ocular blastomycosis may benefit from oral prednisone 1-2 mg / kg to reduce inflammation in the posterior part of the eye





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Blastomycosis

Chest radiographs pretreatment

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Blastomycosis

What's on the horizon

- No current vaccines studies underway. Past studies have shown a vaccine maybe effective on prevention in highly infective areas. No commercial available vaccines for Blastomycosis
- Conversation with Dr Jessica Prichard a veterinary internist at the University of Wisconsin
- Ongoing research to determine why certain dogs get it and others do not
- Soon to be published study looking at immune modulators in the body that maybe responsible for preventing the disease. Vitamin D levels in infected dogs were lower than dogs with the disease
- **DO NOT SUPPLEMENT** with Vitamin D

Blastomycosis

Key points to remember

- Many times misdiagnosed The great impersonator. Looks like many other diseases
- Watch for FEVER OF UNKNOWN ORIGIN
- Accurate test on urine by Mira Vista Labs usually < 48 hour turnaround
- Start treatment early if suspicious of disease even while waiting on test results

Think Blasto