

Owner: Nechemias & Claus

OSUVDL Accession#: V2011-08051

Date received: 2/3/2011

Final Report

Oregon State University Veterinary Diagnostic Laboratory

P.O. Box 429

Corvallis, OR 97339-0429

Phone: (541)737-3261 Fax: (541)737-6817

<http://oregonstate.edu/vetmed/>

Veterinarian/Submitter:
Wilsonville Veterinary Clinic
9275 SW Barber Blvd
Wilsonville, OR 97070-9203

Account#: 3770

Owner's Name:
Nechemias & Claus

Attention: Dr. Raymond Calkins

Date specimens received: 2/3/2011

Preliminary reports: Fax 2/9/2011

Phone Reports: 2/3/2011 P

Final report: Fax 2/15/2011

Client Phone: (503)682-3737

Client Fax: (503)682-3540

Animal ID: Bart

Sex: Male

Age: 4 Years

Species: Canine

Breed: Mastiff

Tests Requested: Necropsy

Specimens Submitted: One dog

Previous Cases:

LABORATORY TEST STATUS

ORDERED

CURRENT STATUS

Fungal Culture	2/3/2011	Completed 2/14/2011
Necropsy, companion animal	2/3/2011	Completed 2/7/2011
Hist: Companion An Necropsy	2/3/2011	Completed 2/9/2011
Environmental Surcharge	2/3/2011	Completed 2/3/2011

DIAGNOSIS: Cryptococcosis

COMMENTS: This diagnosis explains the clinical history and signs. We are most suspicious of *Cryptococcus gattii*, which is the most common strain in the Pacific Northwest, and the isolate will be forwarded to the CDC. This organism is unusual as it can infect immunocompetent individuals as well as immunocompromised individuals. There is much recent information on this infection. You might be interested in the following:

<http://www.cdc.gov/eid/content/15/8/pdfs/08-1384.pdf>

PATHOLOGIST: Beth A. Valentine, DVM, PhD, DACVP

Pathology

Date completed: 2/9/2011

Test: Hist:Companion An Necropsy

Animal ID: Bart, Canine

Owner: Nechemias & Claus

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Histopathology report:

Slide 1: Cerebellum, brainstem: There is moderate to marked expansion of leptomeninges by a diffuse infiltrates of inflammatory cells, varying from predominantly lymphoplasmacytic to areas with degenerate neutrophils and scattered macrophages. Within the lesion there are scattered to abundant round yeast organisms approximately 20 um in diameter with a characteristic, non-staining capsule 20-50 um thick (Cryptococcus sp.).

Spinal cord: There is a moderate to marked, extensive infiltrate of lymphocytes and plasma cells with occasional histiocytes within the leptomeninges.

Slide 2: Cerebrum, midbrain: Leptomeninges contain similar infiltrates and organisms to those described in slide 1. Occasionally, inflammatory infiltrates extend a short way into Virchow-Robbins space.

Slide 3: Tonsil: The lymphoid tissue contains prominent follicles, sometimes with central hemorrhage. Numerous large, coalescing clusters of yeast organisms (as previously described) are present in the tissue, with scattered neutrophils and macrophages. Retropharyngeal lymph node: Changes are similar to those seen in the tonsil, but with a large proportion of the node effaced by yeast organisms.

Adrenal, thyroid: No significant lesions.

Slide 4: Lung: Some portions of the tissue are moderately congested and atelectatic, others are flooded with eosinophilic, proteinaceous edema fluid. Occasional clusters of interstitial macrophages contain brown, refractile cytoplasmic pigment (dust). Nasal turbinates: The submucosa contains patchy infiltrates of lymphocytes, plasma cells and macrophages with scattered yeast organisms as previously described.

Slide 5: Kidney: There is moderate, patchy congestion, particularly at the corticomedullary junction. Rare Bowman's capsules are focally thickened with flecks of mineralization.

Spleen, liver, heart: No significant lesions.

Slide 6: Diaphragm: Occasional myocytes contain contraction bands.

Stomach, intestine: The tissue is moderately autolyzed with sloughing of enterocytes. No significant lesions are visible.

Pancreas: No significant lesions.

Slide 7: Eye: No significant lesions.

Morphologic diagnoses:

Brain: Severe, chronic lymphoplasmacytic to pyogranulomatous meningitis with intralésional yeast

Tonsil, lymph node: Severe, chronic pyogranulomatous tonsillitis and lymphadenitis with intralésional yeast

Nasal turbinates: Moderately severe, multifocal lymphoplasmacytic, histiocytic rhinitis with intralésional yeast

Comment:

These lesions confirm cryptococcal meningitis, rhinitis, tonsillitis, and lymphadenitis, and are a perfect fit for the clinical history of sneezing and neurologic signs. Fungal culture to determine whether the organism is *C. neoformans* or *C. gattii* is pending.

Resident: Susan Piripi, BVSc, PhD

Date Completed: 2/7/2011

Test: Necropsy, companion animal

Date necropsy completed: 02/03/11

Number of animals: 1

Animal ID: Bart, Canine

Necropsy report:

General condition and integument: This is the body of a 140 lb, 4-year-old intact male red-brown Tibetan mastiff. The body is in good condition with pink mucous membranes.

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Nervous system: The meninges are variably cloudy, particularly over the cerebellum. Moderate meningeal petechiae and ecchymoses are present.

Lymphatic system: The left tonsil is swollen approximately 3 times normal and hemorrhagic.

Respiratory system: The nasal turbinates are reddened, with a variably glistening nodular mucosa forming a vague "botryoid" pattern. The lungs are reddened and ooze blood on cut surface.

Digestive system: Occasional petechiae are present in the mucosa. The small and large intestine contains pasty green digesta, with no formed feces.

Urinary system: On cut surface, the kidneys bulge slightly. There are patchy subcapsular ecchymoses.

Body cavities, cardiovascular, hepatobiliary, endocrine, reproductive, musculoskeletal system: No significant lesions.

Morphologic diagnoses:

Meningitis

Moderately severe, extensive granulomatous rhinitis

Moderately severe unilateral tonsillitis

Moderate pulmonary congestion

Comment: Impression smears of meninges, nasal mucosa and tonsil taken at necropsy show yeast organisms consistent with *Cryptococcus* sp.. It is likely that the infection began as a mycotic rhinitis and progressed to meningitis, although the tonsillar involvement does not quite fit with this pattern. Histopathology to confirm sites of infection is pending, and culture to confirm the diagnosis and determine the exact agent is in progress.

Resident: Susan Piripi, BVSc, PhD

Date Completed: 2/3/2011

Test: Environmental Surcharge

Bacteriology

Date completed: 2/14/2011

Test: Fungal Culture

Animal ID: Bart

Specimen

Isolate

Meninges-swab

Cryptococcus spp

Comment:

Isolate will be sent to CDC for typing.

Report by: Andree Hunkapiller

End of Report

BULLETIN:

Test reliability/function is checked on each run date. Accuracy and/or reproducibility are proven by proficiency testing of known samples (if available). Validation of this test according to the AAVID/OIE standards is currently in progress. An "*" after the test name indicates the documentation of test validation is complete.