



# Oregon State University Veterinary Diagnostic Laboratory

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**Preliminary  
Version 3**

*This report supersedes all  
previous reports for this case*

**VDL Accession #:** 17V08024

**Referral #:**

**VTHCase #:**

**Date Collected:**

**Date Received:** 01/03/2017

**Related Acc #:**

**Case Coordinator:** Duncan Russell,  
BVMS(Hons), DACVP

**Preliminary Report Sent By:** Duncan  
Russell, BVMS(Hons), DACVP on  
1/23/2017 10:32:31AM

0084029 **Email To:**  
Mael, Nikki  
[Redacted]

**Collection Site:**  
Mael, Nikki  
[Redacted]

**Specimens Received:** 1 Food; 10 Tissue Block; 1 Whole Body;

### Case Contacts

Bill To	Vet-LIRN P0359A	3012104681	8401 Muirkirk Rd, LAUREL, MD 20708-2482
Report To	Columbia River Vet Specialists	3606943007	6607 NE 84th St Ste 109, VANCOUVER, WA 98665-2019
Report To	Camas Washougal Animal Hospital	3608357240	401 6th St, Washougal, WA 98671
Submitter	Mael, Nikki	3602419541	3385 I St, WASHOUGAL, WA 98671-1916

### Specimen Details

ID	ID Type	Other IDs	Taxonomy	Gender	Age/DOB
Talula	Name		Pug dog	Female	12/3/2004

### Diagnosis

1. Nodular splenic hyperplasia, multifocal
2. Mild urinary bladder hemorrhage (gross) and leiomyoma
3. Valvular endocardiosis, mitral, mild
4. Adrenal nodular cortical hyperplasia, focal, right
5. Mild pulmonary edema

### Case Summary

Gross examination finds no lesions that account for clinical signs. Examination of the fresh and fixed brain is also unremarkable. Based on the absence of gross lesions our primary differentials are CNS disease, metabolic disease, electrical cardiac disturbance and unidentified microscopic disease. We see no changes to directly implicate an infectious agent; gross examination of the liver is not typical of aflatoxicosis.

Neurotoxicosis has not been excluded and we have submitted samples to Michigan State for GCMS and tremorigenic neurotoxin screening. Routine bacterial cultures will also be performed in-house. We are in communications with the FDA and will be working with them to ensure an accurate and prompt diagnosis.

Histopathology is pending.

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Addendum 1/10/17

Histopathology fails to demonstrate any significant morphologic lesions. Toxicology and comprehensive interpretation is still pending.

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Addendum 1/23/17

I interpret the liver culture as a contaminant; there is no evidence of Salmonellosis.

Testing of the feed and stomach contents has found pentobarbital. I have discussed this result with Dr. Rob Bildfell (OVDL director) and John Buchweitz (MSU DCPAH). Findings have also been shared with Dr. Jennifer Jones, Veterinary Medical officer at the FDA.

### N e c r o p s y

A reportedly 13 year old, 9.65kg, spayed female pug with overconditioned body score (BCS 7/9) and good post-mortem condition is necropsied.

Mild prognathism is present. There is moderate dental tartar present.

Both laryngeal sacculles are everted. The trachea contains a moderate amount of light brown fluid throughout its entire length; this fluid is also present in the mainstem bronchi. The lungs are partially collapsed, mottled red to pink.

The right ventricle is mildly dilated. There are small (~0.3mm) round, glistening nodules at the free edge of the mitral valve leaflets (myxomatous valvular degeneration).

The liver has a slightly depressed, poorly-demarcated, friable focus near the hilus of the right medial liver lobe.

The stomach contains partially digested kibble along with chunks of carrots and meat mixed with black gritty particulate material. The duodenum contains a scant amount of gelatinous material that becomes mucoid distally. There is a small amount of formed feces in the descending colon.

There are six raised well-demarcated, mottled light pink to red nodules (0.5 - 2.0cm in diameter) throughout the spleen that extend into the splenic parenchyma on sectioning.

There are numerous (~50-100) small red foci (~1-3mm) on the urinary bladder mucosa near the trigone (hemorrhage).

The left adrenal gland has a tan nodule (0.5 cm) on cut surface that compresses the adrenal medulla.

These are preliminary results. Histopathology and/or additional diagnostics are needed to obtain a more definitive diagnosis.

#### NECROPSY - Companion Animal

Animal/Source	Specimen	Specimen Type	Date Resulted	Results
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Talula Whole Body 09-Jan-2017 Report Completed

### Histopathology

1. Spleen - There is a well demarcated nodule comprised of dilated sinusoids (telangiectasia) and lymphoid follicles (nodular hyperplasia).  
Liver - There is diffuse moderate congestion causing separation of hepatic cords. There are multifocal aggregates of myeloid and erythroid precursors adjacent to centrilobular veins (extramedullary hematopoiesis).
2. Kidney - Medullary tubules sometimes contain a slightly basophilic, amorphous material (mucoprotein). Rarely tubular epithelial cells are hypereosinophilic.  
Liver - as described previously.
3. Lung - Alveoli are diffusely dilated with eosinophilic amorphous material with increased number of intra-alveolar macrophages (pulmonary edema). Several airways contain fragments of skeletal muscle and brown granules mixed with basophilic bacteria (stomach contents); there is no accompanying inflammation.  
Heart - No significant lesions in sections examined.
4. Thyroid - No significant lesions in sections examined.  
Parathyroid - No significant lesions in sections examined.  
Adrenal - There is a well-demarcated, encapsulated nodule of well-differentiated cortical epithelium (nodular hyperplasia).  
Stomach - Marked autolysis may hinder histologic interpretation. No significant lesions in sections examined.  
Pancreas - Marked autolysis may hinder histologic interpretation. No significant lesions in sections examined.  
Lymph node - There is an aggregate of macrophages containing numerous clear vacuoles (interpreted as lipid) within the medullary sinus.
5. Small intestine - Mild autolysis may hinder histologic interpretation. No significant lesions in sections examined.  
Adrenal gland. No significant lesions.  
Pancreas. Marked autolysis may hinder histologic interpretation. No significant lesions.
6. Lymph node. No significant lesions.  
Urinary bladder - Focally disrupting and compressing the inner circular muscular layer is a well-demarcated encapsulated mass composed of well-differentiated smooth muscles haphazardly arranged in bundles (leiomyoma). Central nuclei exhibit moderate anisokaryosis and contain euchromatin. Occasional binucleation is present. Mitotic activity is not present in this section.  
Large intestine - Moderate autolysis may hinder histologic interpretation. No significant lesions in sections examined.
7. Cerebellum/brainstem - No significant lesions in sections examined.
- 8-9. Cerebrum and mid brain - No significant lesions in sections examined.

#### HISTOPATHOLOGY REPORT

Animal/Source	Specimen	Specimen Type	Date Resulted	Results
Talula		Tissue - Fixed	10-Jan-2017	Report Completed

### Bacteriology

#### BACTERIAL AEROBIC CULTURE

Animal/Source	Specimen	Specimen Type	Date Resulted	Results
Talula		Liver Tissue	12-Jan-2017	4+ Enterococcus sp. -- Two morphologically different colony types.

**SALMONELLA CULTURE - MAMMALIAN**

<b>Animal/Source</b>	<b>Specimen</b>	<b>Specimen Type</b>	<b>Date Resulted</b>	<b>Results</b>
Talula		Liver Tissue	11-Jan-2017	No Salmonella sp. detected

**Administration**

01/17/17 Results from the Diagnostic Center for Population and Animal Health at Michigan State University are attached. MS

## Appendix - Report Related Images

MICHIGAN STATE  
UNIVERSITY



Director: Dr. Rachel Y. Reams  
4125 Beaumont Road  
Lansing, MI 48910-8104  
Phone: 517-353-1683  
Fax: 517-353-5096  
www.animalhealth.msu.edu

## REPORT OF LABORATORY EXAMINATION

Client: Oregon State University (7524)  
Oregon Vet. Diagnostic Lab  
134 Magruder Hall  
Corvallis, OR 97331

Owner: Mael, Nikki

Rcvd Date: 1/11/2017 10:54:00 AM  
Admitted By: Not Provided  
Ordered By: N/A  
Encounter: 02195065  
CR#: AP

Animal: TALULA  
Species: Canine  
Age: 12 years  
Tag/Reg ID:  
Other ID:

MRN: 17V08024  
Breed: Pug  
Gender: Female

**Toxicology****General Toxicology**

Collected Date/Time (If Provided)	01/03/2017 10:54:00	01/03/2017 10:53:00		
Procedure			Ref Range	Units
GCMS Specimen	Feed	Stomach Contents		
GCMS	Positive	Positive		
GCMS Interpretation	See Below	See Below		

01/03/2017 10:54:00 GCMS Interpretation

The following compounds were identified by mass spectral library match:

1) Pentobarbital (euthanasia agent - large quantity chromatographically)

If this sample came directly from a can, this is an urgent matter and needs to be reported to the FDA Feed Safety Portal. Please contact me at (517) 353-4773 to discuss how to do this or to gain my assistance in reporting this. Please have the client of record hold onto the original container and any other feed that was purchased on that date.

John P. Buchweitz, Ph.D., DABT  
Clinical Toxicologist  
1/17/2017 9:16 AM

L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote

Print Date/Time: 1/17/2017 9:23 AM

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**Appendix - Report Related Images**

Admitted By: Not, Provided	Species: Canine	MRN: 17V08024
Encounter: 02195065	Animal: TALULA	Owner: Mael, Nikki

**T O X I C O L O G Y****General Toxicology**

01/03/2017 10:53:00 GCMS Interpretation

The following compounds were identified by mass spectral library match:

1) Pentobarbital (euthanasia agent)

This dog was not listed as having been euthanized.  
Please see report on dog food submitted to our lab.

John P. Buchweitz, Ph.D., DABT  
Clinical Toxicologist  
1/17/2017 9:10 AM

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L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote

Print Date/Time: 1/17/2017 9:23 AM

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**Laboratory Bulletins**

Test reliability/function is checked on each run date. Accuracy and/or reproducibility are proven by testing known samples, when available. Validation of some tests according to the AAVLD/OIE standards is currently in progress.