



**PATIENT**

Mackenzie Marzolf

**SPECIES**

Canine

**BREED**

Goldendoodle

**SEX**

Spayed Female

**AGE**

6/27/2009

**WEIGHT**

28.5 kg

**INTERPRETED BY**

Andrea Nicastro,  
DVM, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**IMAGING PERFORMED BY**

Andrea Nicastro,  
DVM, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

**HOSPITAL NAME**

Blue Pearl Mt Pleasant

**REFERRING VET**

Frasier/Marcario

**INVOICE**

11110

**DATE**

6/19/22

**PRESENTING CLINICAL SIGNS**

O's arrived home around 7:45P o tried helping her up to go outside and Mackenzie had a very hard time getting her hindlegs under her. O said that she's been having a little trouble but not this much. O noticed that she was sitting in a puddle of urine and on the way outside she had another accident which is not like her.

P has a hx of seizures from preventions so she's currently on the collar only. Otherwise, she's been e/d well. No c/s/v/d. Utd on vaccines.

Medications: Keppra-1000mg BID. Glucosamine Supp.

13yo FS doodle with HX seizures presents weak in the rear.  
Hx possible pulmonary mass

Abnormal lab-work values: CBC- WBC 17K. Chem 17. ALT 1450 ALKp 371  
Current Medications: Keppra-1000mg BID Glucosamine Supp. Cerenia 28.5 mg IV unasyn 855 mgIV Buprenex 0.43 IV

Findings: 06/19/2022 Orthogonal projections of the thorax and abdomen are available for review (6 images). Images compared to previous study from April 2022

Thorax: There is an irregularly shaped, structure with a lumpy outline associated with the right lung, likely right cranial lung lobe (2.4 x 3.3cm). This lesion is similar in location to previously identified 1.3 cm nodule. No additional pulmonary lesion seen.

The cardiac silhouette, pulmonary vessels, cranial mediastinum and pleural space are within normal limits. Multiple sites of spondylosis deformans are seen throughout the thorax.

**Abdomen**

There is a moderate volume of mixed soft tissue and gas opacity content within the stomach. Small volumes of gas are noted throughout the small intestine. The colon contains formed faeces.

The liver is markedly enlarged extending caudally beyond the costal arch and causing slight caudal excursion of the gastric axis.

The visible portion of the spleen, kidneys and urinary bladder are unremarkable.

Abdominal serosal detail is good.

Spondylosis deformans are seen in the lumbar region.

Assessment: No definitive evidence of intervertebral disc disease

Multiple sites of spondylosis deformans, often incidental

Right cranial pulmonary nodule, increased in size compared to the previous study and may represent a benign or malignant lesion

Post-prandial abdomen

Mild hepatomegaly, non-specific finding, may represent an endocrine related, drug-related or inflammatory hepatopathy

No definitive cause for the patient's difficulty rising and inappropriate urination have been seen.

Occult intervertebral disc disease remains possible.

The right cranial pulmonary lesion is a concerning finding given its increase in size compared to the previous study. Ultrasound guided sampling of this lesion may be possible via an intercostal approach for definitive diagnosis.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**



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The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

**SPECIES**

Canine

The left kidney is normal size (6.73 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. One to two, small, cortical cysts are seen. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**BREED**

Goldendoodle

The right kidney is normal size (7.30 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. A small, mineralized focus is visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

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**Adrenal Glands**

**AGE**

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The left adrenal gland is normal size (0.86 cm at cranial pole) (0.78 cm at caudal pole) (2.61 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

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The right adrenal gland is normal size (1.12 cm at cranial pole) (0.59 cm at caudal pole) (2.57 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

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**Spleen**

The spleen is normal in size (1.89 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

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**Liver**

The liver is prominent in size with slightly swollen peripheral contours. The parenchyma is slightly mottled in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

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**Gastrointestinal**

The gastric lumen is moderately distended with ingesta and soft, shadowing material. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract appears patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

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**Pancreas**

A portion of the pancreas is obscured by the gastric distention. In the visualized portions, no obvious pathology is seen.

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**Free Abdomen**



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The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

**Other**

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Nonspecific diffuse hepatopathy. Differentials include inflammatory disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), hepatotoxicosis (i.e., copper), Leptospirosis, other hepatopathy, +/- concurrent age-related changes (i.e., regenerative nodular hyperplasia, vacuolar hepatopathy).

**Secondary Findings**

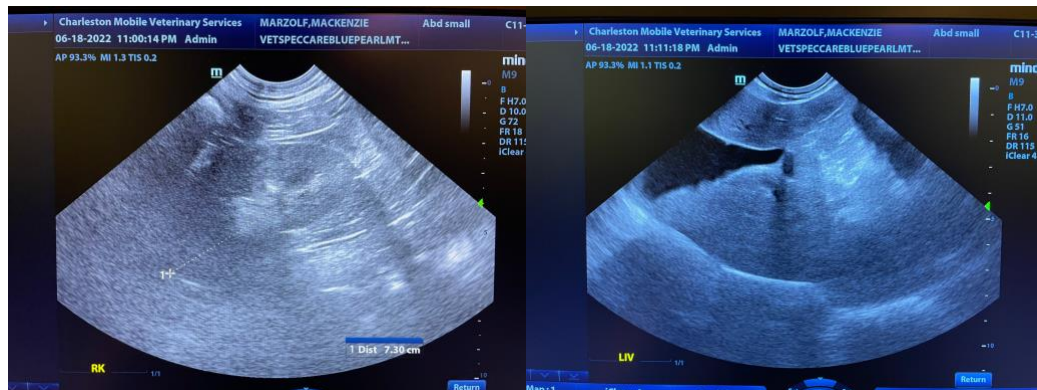
- Minor, bilateral, chronic, age-related changes
- The gastric luminal contents are consistent with ingesta and/or foreign material (i.e., grass, cloth). Correlation with the patient's clinical history is recommended.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the likely hepatopathy, consider pre-and postprandial serum bile acids +/- hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). Surgical biopsies are preferred in that they are more likely to yield a definitive diagnosis. If pursued, aerobic and anaerobic bile cultures, as well as acquisition of additional hepatic tissue samples for potential copper quantitation are recommended. Clotting times should be performed prior to any tissue sampling.

If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/- metronidazole, Denamarin). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued, and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.

Also consider Leptospirosis testing (i.e., blood and urine PCR, serology).





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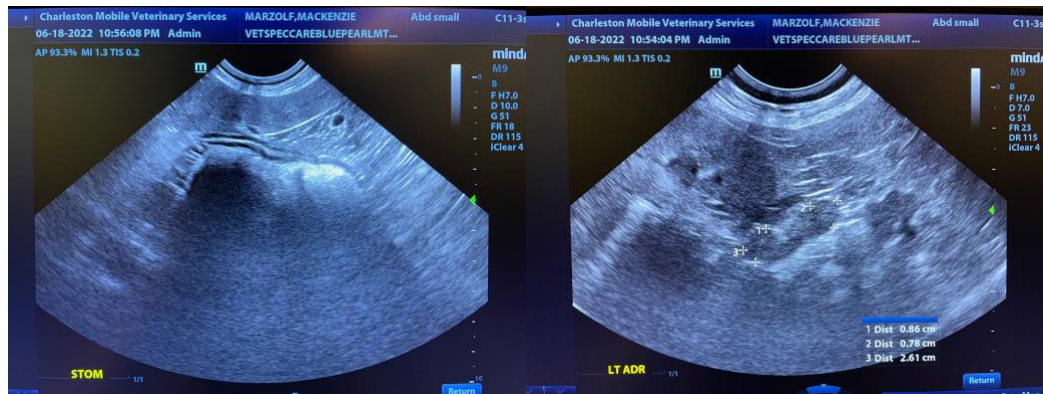
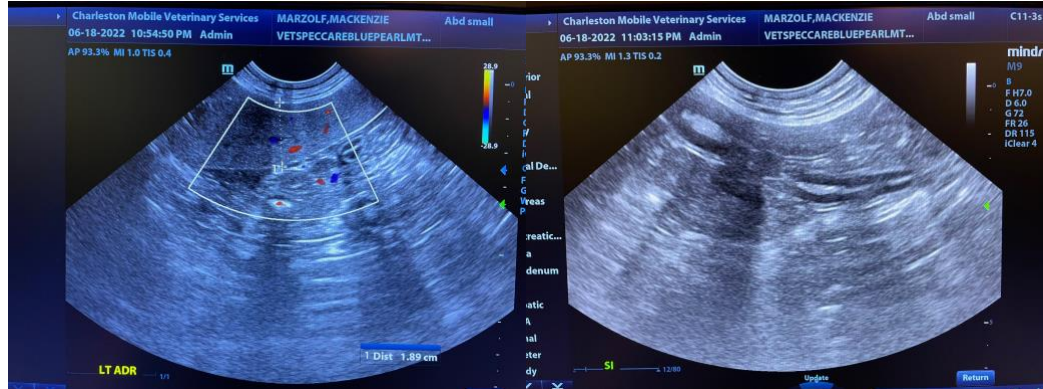
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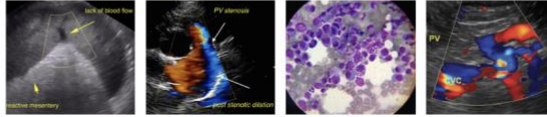
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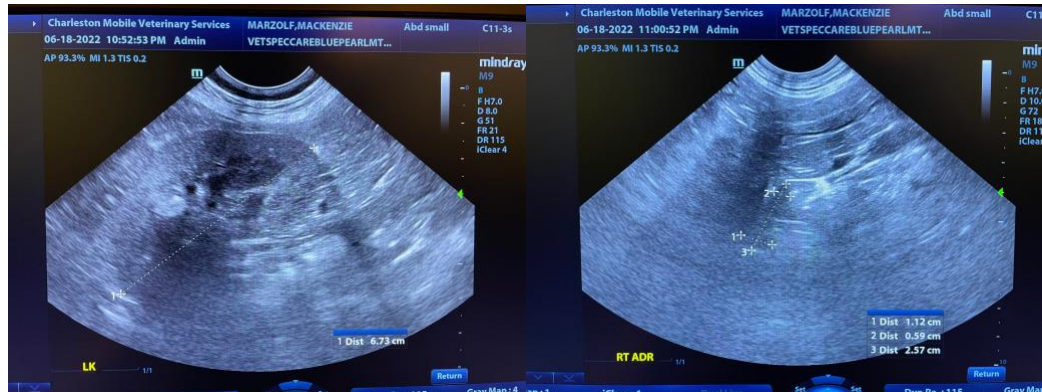
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**Andrea Nicastro, DVM, Diplomate DACVIM (Small Animal Internal Medicine)**  
info@SonoPath.com

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