



**PATIENT**

Atlas McNaughton

**SPECIES**

Canine

**BREED**

Pitbull

**SEX**

Neutered male

**AGE**

8 ½ years

**WEIGHT**

75 lbs

**INTERPRETED BY**

Dr Brittany Sinclair,  
BVSc(hons), DACVECC

**IMAGING PERFORMED BY**

Meghan Myers, VMD

**HOSPITAL NAME**

Hershire AH

**REFERRING VET**

Dr. Zhang

**INVOICE**

43149

**DATE**

3/7/23

**PRESENTING CLINICAL SIGNS**

3 day hx orange soft stool; vomited 2 d ago, appetite is fine on bland diet. Tense abd palpation, otherwise vitals wnl. Radiographs--mass effect seen on lateral and VD AXR displacing small intestines. Chest rads: no mets seen syz  
Abnormal PE/Chem/CBC/UA Results: BW- HCT 35.7, mild nonregenerative anemia, thrombocytopenia but can't r/o clumping. pt/ptt: pending

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder lumen volume is small and walls are diffusely thickened most consistent with pseudohypertrophy. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

The kidneys have a smooth capsule and with mild hazing of corticomedullary definition with approximate maintenance of normal ratio (cortex 1/3 of medulla). Hyperechoic shadowing in renal pelvis with no dilation consistent with non-obstructive nephrolithiasis. No evidence of pelvic dilation was present. Visualization of right kidney was slightly limited to not include cranial pole in sagittal view making measurement inaccurate. This is commonly related to breed related anatomical positioning.

**Adrenal Glands**

Left adrenal gland was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland was not definitively visualized. The left adrenal gland measured 2.1 cm in length and 0.69 cm at the caudal pole and 0.5 cm at the cranial pole.

**Spleen**

Large slightly heterogenous to hyperechoic spherical (roughly 9.2x10.2cm) partially cavitory splenic mass appears to be originating from body of spleen with surrounding free fluid.

**Liver**

The liver is subjectively normal in size with normal contours and structure. The parenchyma is slightly heterogenous with a coarse appearance. No visible nodules or masses consistent with metastatic neoplasia. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. Gallbladder is moderately distended with normal wall thickness and anechoic contents. Common bile duct is non-distended and tapers normally

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed. The



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visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed. The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

**Pancreas**

The base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour and parenchyma were normal. No overt evidence of active inflammatory or neoplastic disease was noted.

**Lymph Nodes**

No clinically significant lymphadenopathy or abnormalities noted.

**Free Abdomen**

No masses or free fluid were noted.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

1. Splenic mass with surrounding free fluid
2. Coarse liver parenchyma
3. Thickened urinary bladder wall - suspect pseudohypertrophy
4. Mild degenerative renal changes with nephrolithiasis

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Mass in spleen is most concerning for neoplasia with primary differential being hemangiosarcoma. Splenic aspirate could be done to further characterize. Whether benign or malignant, all splenic masses are at risk of rupture and surrounding free fluid is concerning for hemorrhagic effusion. If no signs of metastasis are present on thoracic radiographs, splenectomy with histopathology is recommended. Liver biopsy at the time of surgery is recommended to further characterize parenchymal changes.

Primary splenic tumors include angiogenic tumors, lymphoid/round cell tumors, and nonangiogenic, nonhematopoietic tumors. Angiogenic tumors include hemangiosarcoma and hemangiomas. Hemangiomas are benign, whereas HSAs are the most common malignant splenic tumor in dogs. Lymphoid and other round cell tumors may include lymphoma, leukemia, mast cell tumor, plasma cell tumor/multiple myeloma, and histiocytic sarcoma. Nonangiogenic, nonhematopoietic tumors encompass a long list of uncommon splenic neoplasms, such as leiomyoma, leiomyosarcoma, extraskeletal osteosarcoma, chondrosarcoma, fibrosarcoma, lipoma, liposarcoma, myxosarcoma,



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rhabdomyosarcoma, undifferentiated sarcoma, melanoma, carcinoma, peripheral nerve sheath tumor, myelolipoma, and mixed mesenchymal sarcoma (mesenchymoma).

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Urinary bladder wall thickening is likely pseudohypertrophy secondary to low volume of urine and lack of luminal distension, however, true mural thickening cannot be definitively ruled out. Re-examination when urinary bladder lumen volume is increased with time and/or fluid therapy should be considered if clinical suspicion for urinary bladder disease is high.

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Renal changes are likely age related degenerative changes. Correlate clinical significance with blood work/urinalysis findings and clinical signs. Nephroliths may act as a nidus of infection and predispose to urinary tract infections. They have the potential to move into the ureters or bladder causing obstructive nephropathy.

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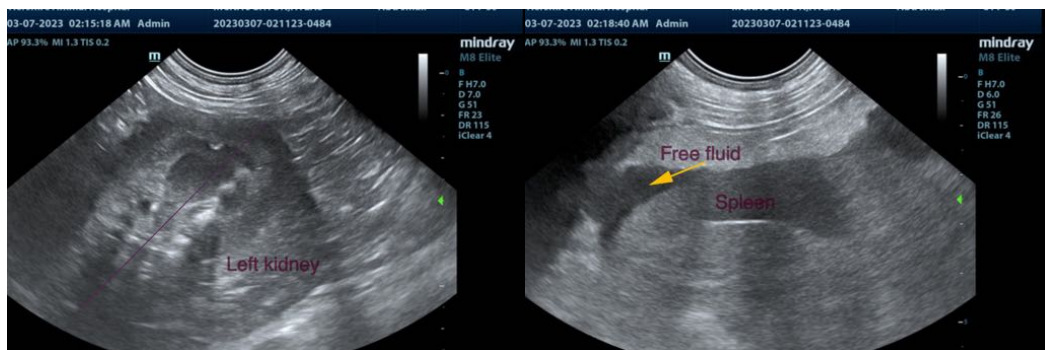
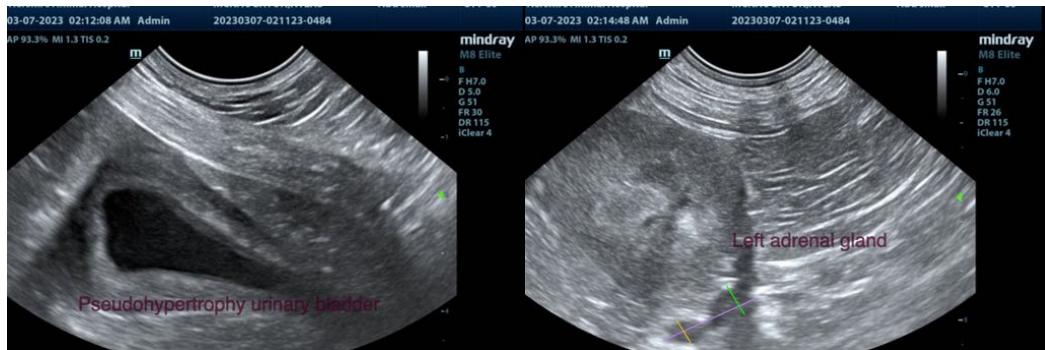
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC  
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