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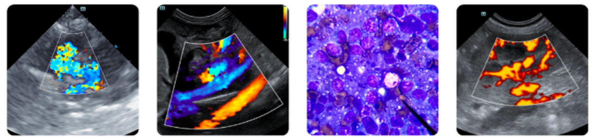


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

PATIENT
Minnie Williamson

SPECIES
Canine

BREED
Pug

SEX
SF

AGE
10 years

WEIGHT
7.9 kg

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Dr. Mariusz Chmielinski

HOSPITAL NAME
Apex Veterinary Services Ltd.

REFERRING VET
Alpine 24/7 – ER Dr

INVOICE
11291

DATE
2/11/2026

PRESENTING CLINICAL SIGNS

- Presented today with persistent inappetence. Owner reports she was seen several weeks ago at Macleod Trail clinic where bloodwork was performed. Currently not willing to eat but is drinking water.
- Persistent anorexia with significant hypoalbuminemia and inflammatory leukogram.

Abnormal PE/Chem/CBC/UA Results: Marked leukocytosis (WBC 28.6) with neutrophilia and monocytosis. Hypoalbuminemia (Alb 14 g/L) and low total protein (48 g/L) Mild hypoglycemia (3.19 mmol/L) Liver enzymes within normal limits Urinalysis: bacteriuria noted; SG 1.017.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface. Just ventral to the trigone in what appears to be outside of the urinary bladder is an approximately 1.8 cm long x 0.8 cm thick ovoid, homogenous, isoechoic density. Perhaps a lymph node versus other. A urinary bladder wall mass can't be rueld out but is considered less likely.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. A hyperechoic band parallel to the corticomedullary border is present bilaterally. There is no evidence of pyelectasia, mineral or infarcts observed. Left kidney measures 3.67 cm, and the right kidney measures 3.86 cm.

Adrenal Glands

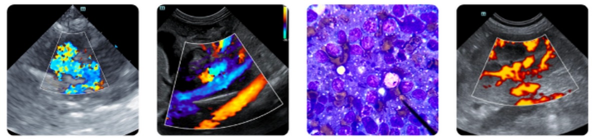
Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. Left adrenal measures 0.31 cm at the cranial pole and 0.48 cm at the caudal pole. Right adrenal measures 0.33 cm at the cranial pole and 0.4 cm at the caudal pole.

Spleen

Spleen is subjectively large in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). An approximately 0.6 cm in diameter non-capsular disrupting hypo- to anechoic nodule near the caudal aspect of the spleen is noted. Additionally, a subtle hyperechoic, potentially mineral non-capsular disrupting density near the hilus is also noted. Splenic vasculature appears normal. The spleen is folded upon itself, which is a positional non-pathologic variant.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.



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The gallbladder is unable to be well visualized in these images.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with primarily fluid as well as some echogenic non-shadowing luminal contents and gas consistent with normal chyme. There is no evidence of obstruction, foreign material, or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

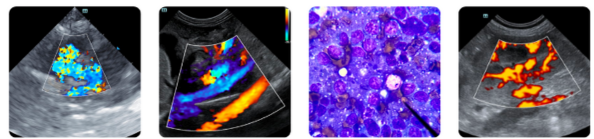
Free Abdomen

There are scant pockets of free fluid noted throughout the abdomen.

Mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

ULTRASONOGRAPHIC FINDINGS

- Mucosal speckling – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.
- Moderately reactive mesenteric lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.
- Patient's free fluid may be secondary to the reported hypoalbuminemia although other pathologic cause can't be ruled out.
- Flat adrenal glands – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.
- Mild Splenomegaly with a hypo- to anechoic splenic nodule and hyperechoic splenic nodules – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered. Hypo to anechoic splenic nodule – likely represents a



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benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out. Hyperechoic splenic nodules – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

- Mild age related kidney changes with bilateral medullary rim sign - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

- The density ventral to the urinary bladder is of unknown origin. Could represent an enlarged lymph node versus other. Both benign, inflammatory and malignant differentials are possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

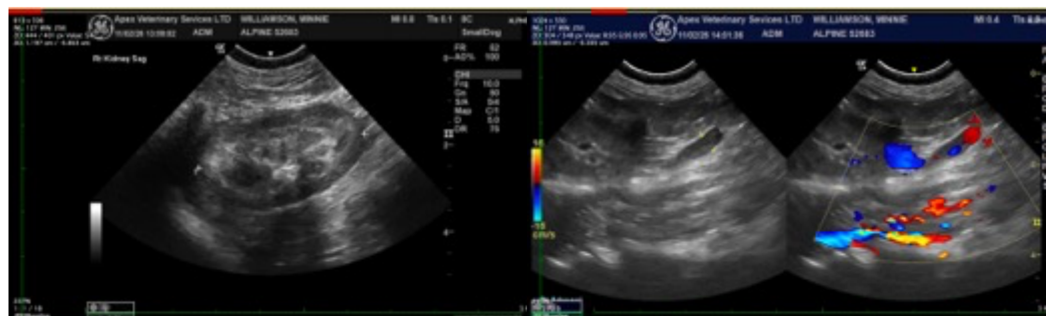
Given the multiple changes described above, combined with patient's history, it's difficult to further isolate the reported hypoalbuminemia. Therefore, further workup for the hypoalbuminemia is recommended, beginning with a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

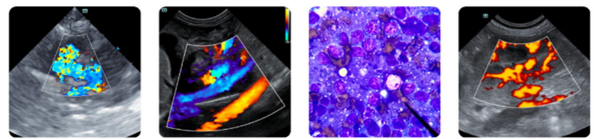
If a diagnosis of hypoadrenocorticism is not made, further diagnostic recommendations include a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

A urine culture is recommended given the reported bacteriuria if not already evaluated.

Fine needle aspirates of the density ventral to the urinary bladder as long as the enlarged mesenteric lymph nodes could be considered if patient's coagulation status is appropriate.

Other than supportive/symptomatic medical management of clinical signs, further treatment recommendations are largely dependent on results of the above.





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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.

Beth Johnson, DVM, DACVIM
info@sonopath.com