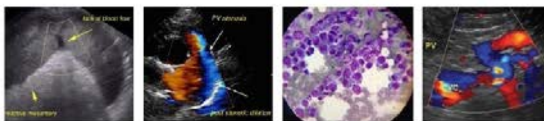

PATIENT

Snoopy Gzik

SPECIES

Canine

BREED

Shih Poo

SEX

Neutered Male

AGE

9 Years

WEIGHT

10 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

Aldershot AH

REFERRING VET

Dr. Patton

INVOICE

45198

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2/16/23

PRESENTING CLINICAL SIGNS

Elevated liver and kidney values

Abnormal PE/Chem/CBC/UA Results: Feb 8: Slight anemia, Hct decreased by 1. M1 thrombocytosis. Biochem: M1 azotemia with elevations in SDMA, BUN and Creatinine suggesting renal disease. M2 elevation in ALT and ALP- DDx: hepatopathy, hepatobiliary disease, infection, endocrine, neoplasia, other. fT4 WNL. PLAN: Recc to add on UA to stage renal disease and check BP. Recc upgrade to liver function panel for more information. Consider abd ultrasound if bile acids elevated Feb 9: Upgraded Liver function panel shows M2 elevation in AST and M2-M3 bile acid elevation indicating hepatic dysfunction. DDx: infectious, inflammatory, neoplasia, other. Recc abd ultrasound as next step to evaluate liver and gall bladder, as well as kidneys. Postpone anesthesia until we can work up the liver disease. May not end up being a good candidate for anesthesia. Feb 15: UA: Inadequate USG for 1st am sample (1.023) indicating renal insufficiency. Trace protein. Quiet sediment. IRIS stage 3. Recc to measure blood pressure and consider adding UPC ratio.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately 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.

The area of the prostate is examined without evident pathology noted.

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. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measures 3.93 cm. The right kidney measured 4.26 cm. An approximately 1.0 cm cortical cyst is noted within the right kidney, but the cyst contains some echogenic septations.

Adrenal Glands

The right adrenal gland is normal in size (1.67 cm long x 1.14 cm at the cranial pole and 0.35 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

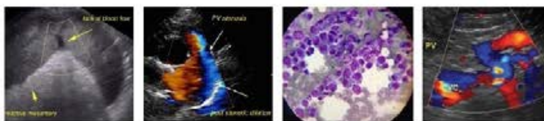
The left adrenal gland is normal in size (2.13 cm long x 0.49 cm at the cranial pole and 0.56 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal 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). No focal nodules or masses are observed. Splenic vasculature appears normal.

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. Several discrete approximately 1.0 cm hyperechoic nodules are present. Visible vasculature and biliary tree appear normal without distension or congestion.



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The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is 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. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. 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 pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Liver nodules –** Differentials for discrete liver nodules include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipoma etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out.

- Age related kidney changes with a cortical cyst in the right kidney. However, the cyst contains septations, making other differentials include a complicated or infected cyst, hematoma, even an abscess or infiltrative neoplasia, though considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's reported proteinuria, azotemia, increased liver enzymes, etc., and as is reportedly already pending, a blood pressure is recommended, as is a urine protein to creatinine ratio.

Testing for Leptospirosis is recommended.

Specific bile acid results would be helpful for additional recommendations. However, depending on what they are, next steps also pending Leptospirosis results could include sampling of the liver, beginning with a fine needle aspirate if patient's coagulation status is appropriate to assess inflammatory cell type, rule in/out round cell neoplasia, etc., or, if round cell neoplasia is not diagnosed, a liver biopsy including copper level assessment may be required to definitively diagnose the underlying hepatopathy.

In the meantime, in addition to symptomatic supportive therapy if necessary, broad-spectrum antibiotics and hepatic nutraceuticals could be considered.

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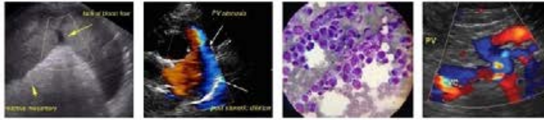

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com