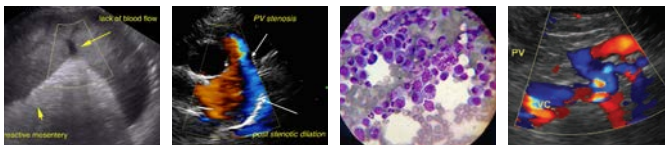
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Tosha Kushnirove

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Intact Male

AGE

12 Years

WEIGHT

6.8 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal General on the Hudson

REFERRING VET

Dr. Vivian Ng

INVOICE

43190

DATE

6/14/23

PRESENTING CLINICAL SIGNS

Patient with history of heart disease presents for grade 4/6 systolic heart murmur and elevated liver enzymes. Current meds (dosing not available): Pimobendan, theophylline, and Lasix.

Abnormal PE/Chem/CBC/UA Results: Elevated globulins, ALT 149, BUN 49, creat. WNL, Phos. 6.1.

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.

Prostate is symmetrically enlarged (2.74 cm wide) with smooth margins that are well differentiated from surrounding tissue. Normal bilobed shape is maintained. Parenchyma is diffusely hyperechoic. Several small anechoic cysts are noted. No mineral is 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 right kidney measures 3.97 cm. The left kidney measures 3.89 cm.

Adrenal Glands

The adrenal glands are unable to be well visualized in these images.

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

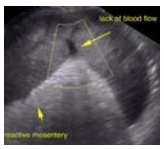
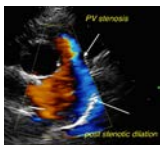
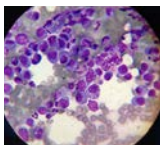
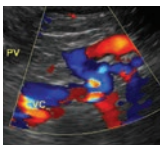
Liver is subjectively enlarged with mildly irregular margins. Parenchyma is markedly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

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 stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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

Pancreas

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

Free Abdomen

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

There is no apparent lymphadenopathy noted in these images.

The left testicle is visualized without evident testicular pathology. The right testicle appears normal in size but slightly more heterogeneous and hypoechoic than normal, possibly characterized by a large hypoechoic nodule.

PRIMARY FINDINGS

- **Markedly heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **Hyperechoic pancreas –** This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.
- **Benign Prostatic Hyperplasia with cysts –** Prostatic findings are most consistent with Benign Prostatic Hyperplasia (BPH) and concurrent benign prostatic cysts. Active prostatitis cannot be ruled out. Infiltrative neoplasia cannot be ruled out but is considered less likely.

SECONDARY FINDINGS

- Age related kidney changes
- Right testicular nodule – both benign and infiltrative neoplastic differentials possible, which cannot be differentiated via ultrasound alone.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Fine needle aspirate of the liver is recommended if patient's coagulation status is appropriate.

Additionally, given the appearance of the pancreas, especially if there are consistent gastrointestinal signs, 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.

If elected, patient neutering is recommended for biopsy of the right testicular nodule.

In the meantime, an empirical course of broad-spectrum antibiotics and hepatic nutraceuticals could be considered with monitoring of ALT for improvement. If improvement is noted, antibiotics should be continued until liver enzymes either normalize or plateau. Recheck every 2-3 weeks. However, if improvement is not noted and/or enzyme increases progress, further intervention may be required.

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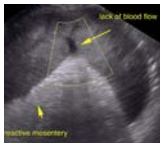
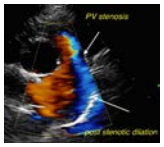
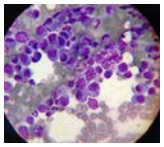
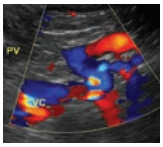

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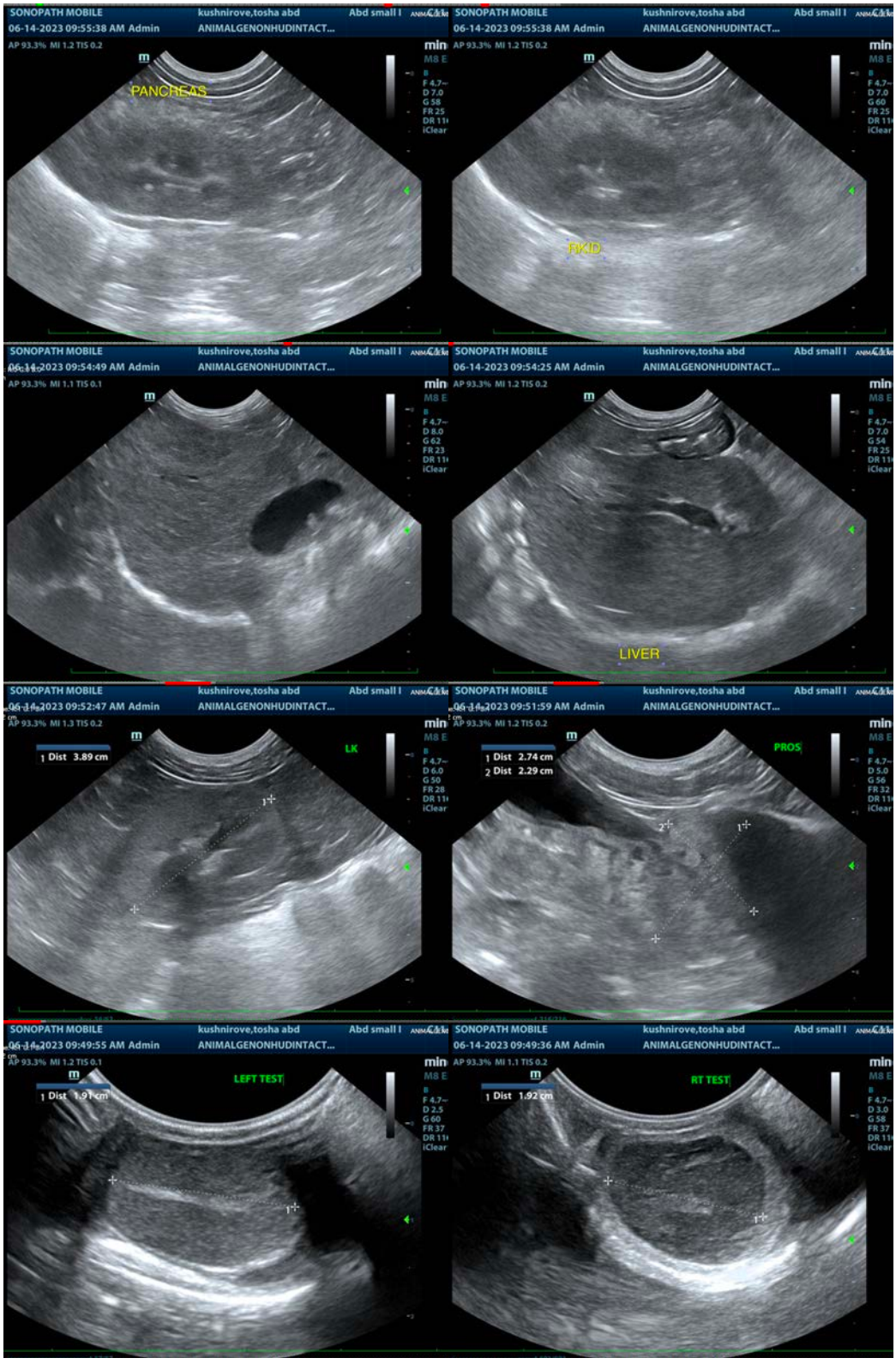

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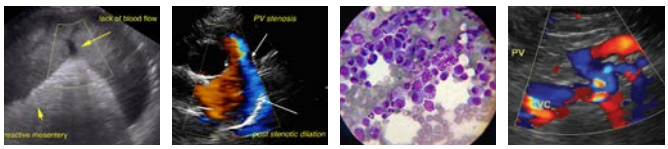

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com