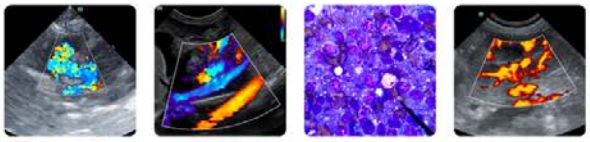




**PATIENT**

Bogey Ogan

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered Male

**AGE**

14 Years

**WEIGHT**

15 lbs

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Julia Bakker, DVM

**HOSPITAL NAME**

Orange Blossom Veterinary Imaging

**REFERRING VET**

Nicole Murphy, DVM

**INVOICE**

75133

**DATE**

5/13/26

## PRESENTING CLINICAL SIGNS

History of liver enzyme elevations. Looking for cushings related changes and having LDDS performed today. Patient is polyuric but has appropriate urine concentration USG 1.024 and an inactive sediment.

Abnormal PE/Chem/CBC/UA Results: ALT 152 ALP 569 Glob 3.8 Trig 362 PSL 167 Plat 424

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots, as well as dependent mineral "sand" (crystals) debris. Both sterile inflammation as well as urinary tract infection can present with echogenic debris. No masses are observed. Small cystoliths within piles of mineral/sand debris can't be definitively ruled out. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

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 or infarcts observed. Left kidney measured 3.78 cm. Right kidney measured 4.47 cm. Small cortical cysts are noted bilaterally. Pinpoint non-obstructive mineral densities are noted bilaterally.

### *Adrenal Glands*

The right adrenal gland is normal in size (1.1 cm at cranial pole and 0.59 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

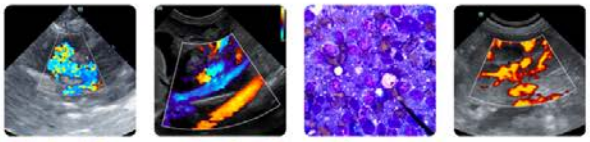
The left adrenal gland is normal in size (0.45 cm at cranial pole and 0.54 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

### *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), except for an approximately 1.2 cm x 1.4 cm non-capsule disrupting hypo- to anechoic nodule/mass near the cranial aspect of the spleen, as well as a smaller 0.30 cm in diameter similar appearing non-capsule disrupting density in the mid spleen. Additionally, several discrete homogeneous, hyperechoic densities consistent with myelolipomas are noted throughout the parenchyma. Splenic vasculature appears normal.

### *Liver*

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





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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

### *Gastrointestinal*

The visible stomach wall is normal in thickness and layering. The stomach is moderately distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. If patient was appropriately fasted, delayed gastric emptying could be considered. Non-shadowing foreign material is considered less likely but cannot be definitively ruled out.

If clinical signs are consistent (vomiting, etc.), recommendations include supportive medical care, 24 hours fasting and re-image.

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 is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta/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*

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity. *See other.

### *Other*

There is no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

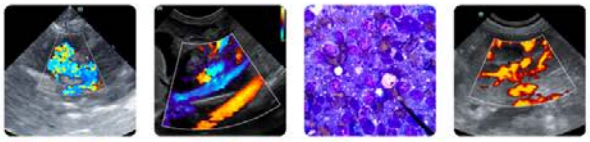
In the mid to left abdomen there is an approximately 1.0 cm x 1.3 cm irregular, ill-defined hyperechoic density that may be associated with the left limb of the pancreas, although other fat density, granulomatous change, etc. can't be ruled out.

### PRIMARY FINDINGS

- Moderately 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.

- Moderate gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

- Chronic low-grade smoldering pancreatitis can't be ruled out and should be suspected in the face of appropriate clinical signs.





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- Ill-defined hyperechoic density of unknown origin in the mid left abdomen.
- Hypo to anechoic splenic nodules – likely represent benign lesions 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.

## SECONDARY FINDINGS

- Moderate amount of echogenic urinary bladder mineral/sand debris.
- Moderate age related kidney changes with pinpoint non-obstructive nephroliths bilaterally and cortical cysts.
- Subtle 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. *This is likely normal patient variant in a post-prandial study.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given patient's reported PU/PD, a urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

A blood pressure is also recommended if not recently evaluated.

Hyperadrenocorticism can't be ruled out based on the appearance of largely normal adrenal glands. Therefore, hormone testing such as a low-dose Dexamethasone suppression test may be appropriate, although further investigation of the other pathology including the urinary bladder debris, splenic masses, potential pancreatic changes, etc. as contributing factors is recommended first.

Therefore, additionally, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirate of the spleen could be considered if patient's coagulation status is appropriate.

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.

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

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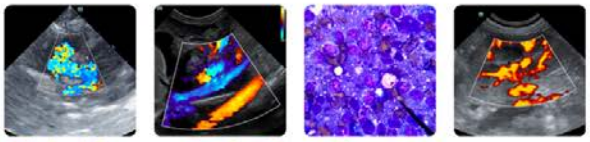

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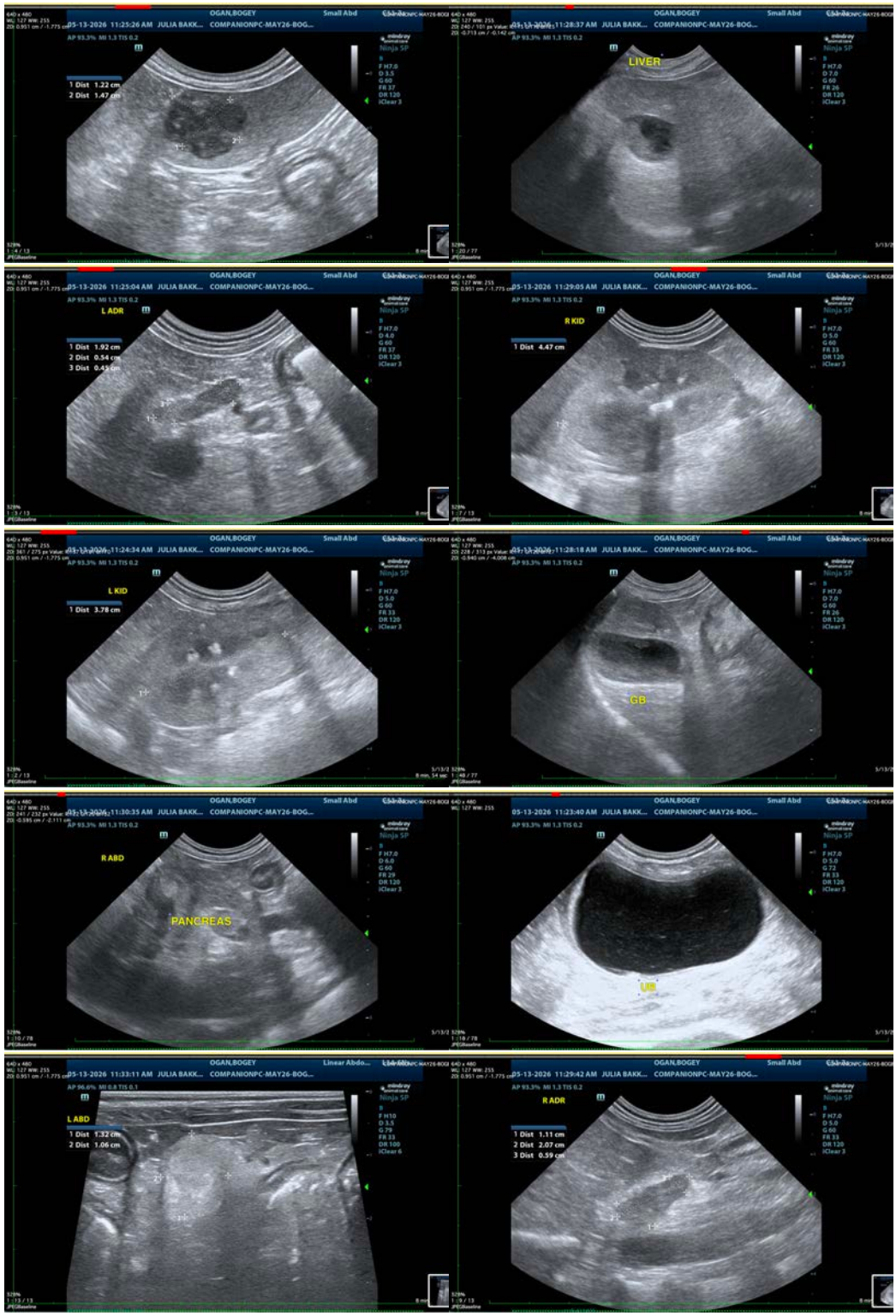

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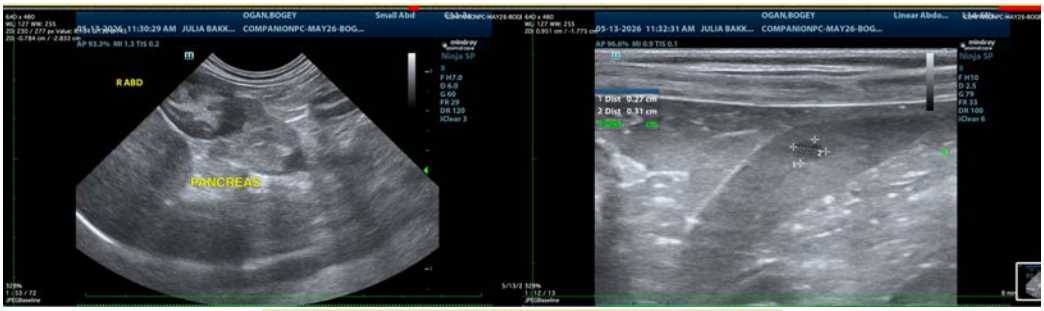


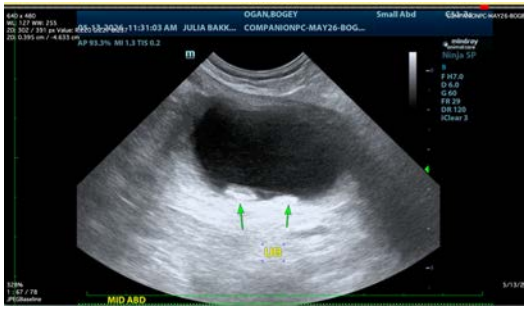


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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