



**PATIENT**

Jack Turner

**SPECIES**

Canine

**BREED**

Boxer Mix

**SEX**

Neutered male

**AGE**

10 years

**WEIGHT**

51.2 lbs

**INTERPRETED BY**

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

**IMAGING  
PERFORMED BY**

Jessica Green

**HOSPITAL NAME**

Stanglein VC

**REFERRING VET**

Dr. DiNello Schleicher

**INVOICE**

**DATE**

6/30/22

**PRESENTING CLINICAL SIGNS**

History: weight loss with decreased appetite for about 1 week, excessive drinking, lethargic, and panting. On exam very painful in hips, mild discomfort on abdominal palpation, bloodwork revealed elevated liver values and lipase

Abnormal PE/Chem/CBC/UA Results: ALT 306 (18-121), AST 179 (16-55), ALP 719 (5-160) GGT 34 (1-13), Lipase 1,081 (0-250), USG 1.013, Urine PH 8.0, remainder of urine unremarkable. no rads taken.... P currently on gabapentin 100mg 1-2C BID

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is distended with anechoic urine. A moderate amount of echogenic debris is noted. The pelvic urethra is visible to 1.0 cm. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted.

The prostate is not visualized due to its intrapelvic location.

Both kidneys are hyperechoic, and exhibit moderately decreased cortico-medullary differentiation. There is no evidence of nephrolithiasis, mineralization, pyelectasia or hydronephrosis. The proximal ureter is not visible (normal). The left and right kidney measured 7.2 cm.

**Adrenal Glands**

The adrenal glands are both identified in their normal locations. They are normal in size and shape with appropriate parenchymal echogenicity and normal phrenic vasculature. The left adrenal gland height is (0.36) cm at the cranial pole. The right adrenal gland height is (0.6) mm at the cranial pole and (0.5) mm at the caudal pole.

**Spleen**

The spleen is of appropriate size and has a normal, homogenous parenchyma with a smooth, continuous capsular surface. The spleen contains multiple, isoechoic nodules that measured up to 2.4 cm. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

**Liver**

The liver is diffusely hyperechoic and subjectively enlarged. There are hypoechoic nodules present throughout the parenchyma, measuring up to (1.9) cm. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis.

The gallbladder is moderately distended with anechoic contents. The wall was thin and continuous with no focal lesions. The cystic and common bile ducts are normal / not visible.



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***Gastrointestinal***

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The stomach is empty. The gastric wall is normal with deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

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The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. Intestinal motility appears normal.

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The visible portions of the colon are of normal thickness with intact wall layering. The ileocecal junction is visualized and appears normal.

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***Pancreas***

The areas of the limbs and body of the pancreas are isoechoic to the surrounding mesenteric fat, with normal capsular appearance. There is no evidence of peripancreatic inflammation. The pancreatic duct appears normal.

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***Free Abdomen***

There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

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**ULTRASONOGRAPHIC FINDINGS**

**PRIMARY FINDINGS:**

Subjectively enlarged liver with multiple hypoechoic and isoechoic nodules.

Multiple isoechoic splenic nodules.

**SECONDARY FINDINGS:**

Chronic renal changes.

**IMAGING PERFORMED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The changes in the liver are non-specific and could be attributed to endocrine disease, other vacuolar hepatopathies, reactive hepatopathy, storage hepatopathy, chronic infectious or inflammatory disease (including leptospirosis), hepatic lipidosis, or less likely neoplasia. Ultrasound-guided or laparoscopic biopsies would be needed for definitive diagnosis. Recommendations include:

- ❖ screening for diabetes mellitus and hyperlipidemia if not already performed
- ❖ testing for Cushing's disease is recommended only if clinical signs support the diagnosis
- ❖ bile acid testing is recommended to further assess severity of hepatic disease - if elevated then liver biopsies should be considered

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- ❖ if bile acids are normal, but the ALT is increased, then initiation of liver support therapies such as SAmE, Vitamin E and ursodiol, along with serial monitoring of liver enzyme levels every 2-3 months, could be initiated
- ❖ FNA of the nodules is recommended for a definitive diagnosis using a 25-gauge needle after checking a coagulation profile.

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The splenic changes are non-specific and could be consistent with nodular hyperplasia, extramedullary hematopoiesis, splenitis or less likely, neoplasia. Recommendations include:

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- ❖ ultrasound-guided fine needle aspiration of affected areas with a 25G needle

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The changes in the kidneys are consistent with chronic renal disease. Recommendations include:

- ❖ a CBC, chemistry panel, urinalysis, urine protein creatinine ratio and blood pressure measurement are recommended
- ❖ urine culture should also be considered, particularly if urine sediment is active
- ❖ dietary and supportive care recommendations can be made, based on the staging of the disease as outlined in the IRIS guidelines

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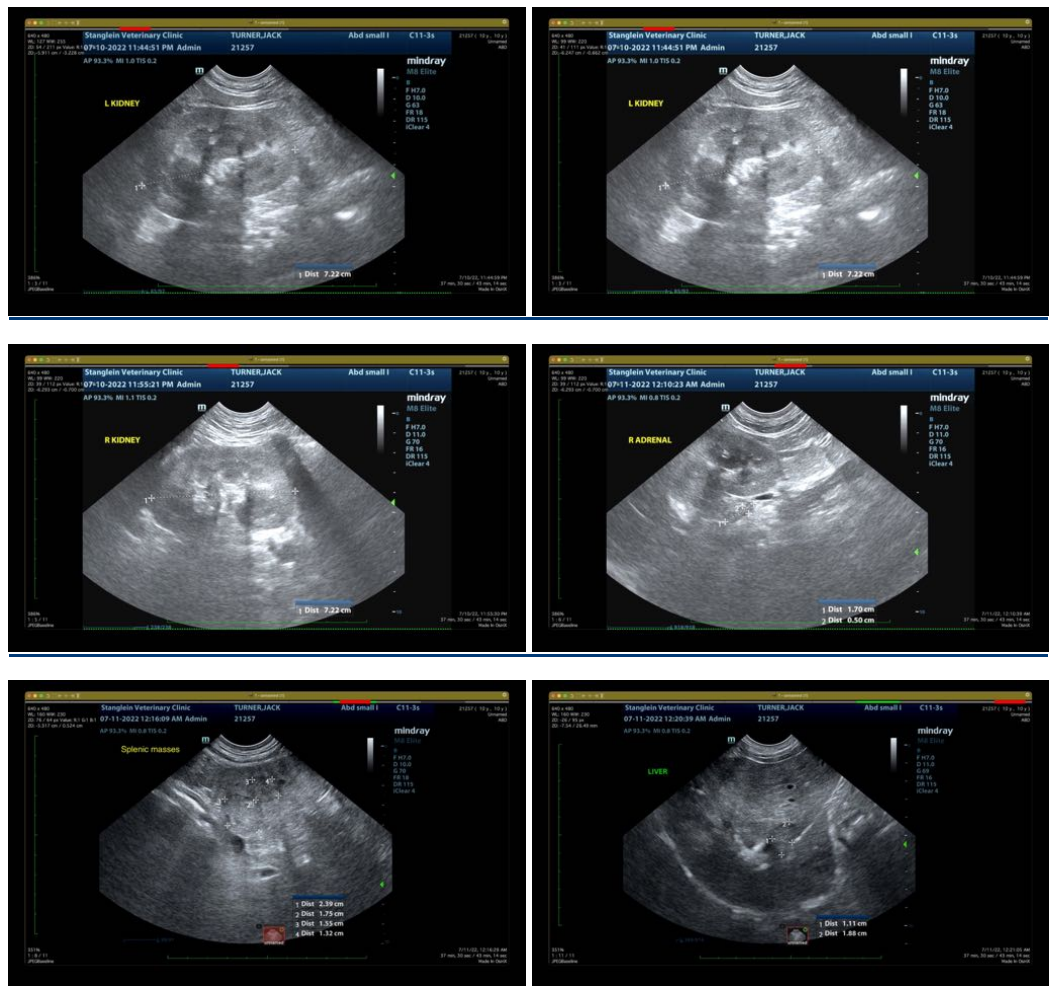
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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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.

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info@SonoPath.com

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