



**PATIENT**

Odin Stevens

**SPECIES**

Canine

**BREED**

Doberman

**SEX**

Male

**AGE**

3 Years

**WEIGHT**

85 Pounds

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**IMAGING  
PERFORMED BY**

Dr. Reyes

**HOSPITAL NAME**

Mobile Vet Ultrasound

**REFERRING VET**

Dr. Jorge Beltran

**INVOICE**

36739

**DATE**

4/7/22

**PRESENTING CLINICAL SIGNS**

Pet presented for pre anesthetic blood work and found elevated liver enzymes. Doing well per owner. No history of Lepto vaccines per current DVM  
Abnormal PE/Chem/CBC/UA Results: ALT: 1350 (<130) Alkp: 403 (0-175)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is mildly to moderately distended with anechoic contents. Apical urinary bladder wall is diffusely thick (0.60 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The right kidney is normal in size (8.6 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (7.4 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

There is no visible pathology associated with the prostate.

**Adrenal Glands**

The right adrenal gland is unable to be visualized. However, the area is examined without evident pathology.

The left adrenal gland is normal in size (0.53 cm at the cranial pole, 0.53 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. No focal lesions are observed. 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



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per min). The lumen of the small intestine is empty with 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.

**SPECIES**

Canine

**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.

**BREED**

Doberman

**Free Abdomen**

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**SEX**

Male

**ULTRASONOGRAPHIC FINDINGS**

- Chronic Cystitis – Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

**AGE**

3 Years

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**Alanine Aminotransferase (ALT)** - ALT is more liver specific than other enzymes. It is a good indicator of active liver damage (cell membrane disruption, cellular necrosis) if the value is increased by at least 3-4 times normal. Differentials include infectious disease, including Leptospirosis, inflammatory disease (ie. active hepatitis, copper, other), toxic insult as well as infiltrative neoplasia.

ALT levels vary in cases of vascular anomalies such as microvascular dysplasia and portosystemic shunts (PSS), but are often less significantly increased.

Non primary hepatic causes of increased ALT can include a variety of other metabolic conditions including, but not limited to, pancreatitis, gastroenteritis, parasitic disease, dental disease, vacuolar or endocrine hepatopathy from diabetes mellitus or hyperadrenocorticism (steroid-induced), hypoadrenocorticism, certain drugs (e.g. phenobarbital, corticosteroids, azathioprine, etc.), and muscle ALT (more likely if AST and CK concurrently increased).

Specifically for this patient, both bile acids and testing for Leptospirosis are recommended prior to pursuing anesthesia. In the meantime, empirical therapy for possible acute infectious hepatopathy could be considered with broad-spectrum antibiotics, Denamarin +/- Ursodiol with monitoring for improvement.

**INTERPRETED BY**

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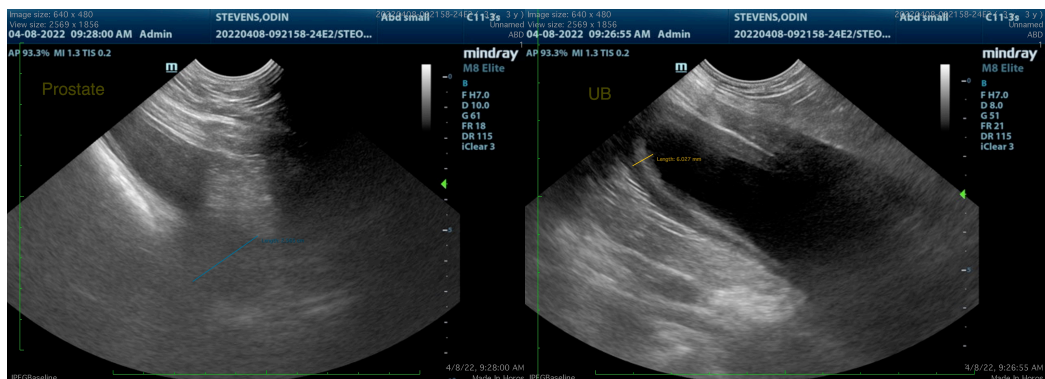
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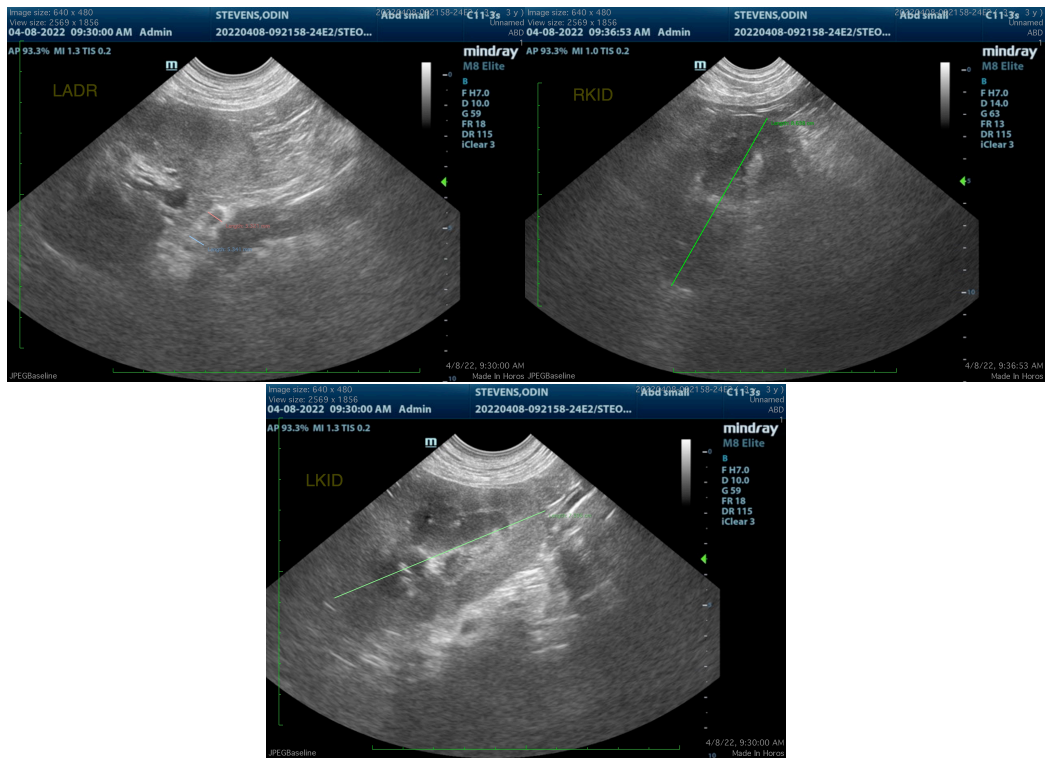
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**  
Beth.Johnson@sonopath.com