



**PATIENT PRESENTING CLINICAL SIGNS**

Bingo Salib elevated liver enzymes  
Abnormal PE/Chem/CBC/UA Results: increased ALT Increased UREA decreased AMYL increased bile acids Liver FNA taken at scan.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**BREED**

Morkie

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.

**SEX**

Intact Male

Prostate is normal in size for an intact male. Parenchyma is diffusely homogenous and relatively hyperechoic. Normal distinct margins and symmetrical bilobed shape are maintained. A small anechoic cyst is present.

**AGE**

7 Years

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 4.61 cm. The right kidney measures 4.49 cm.

**WEIGHT**

5 kg

**Adrenal Glands**

The right adrenal gland is normal in size (1.27 cm long x 1.23 cm at the cranial pole and 0.57 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

The left adrenal gland is normal in size (1.52 cm long x 0.49 cm at the cranial pole and 0.49 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

**IMAGING PERFORMED BY**

Kelly Reschny

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.

**HOSPITAL NAME**

Collegeway AH

**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.

**REFERRING VET**

Dr. Hanna

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.

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**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.

**DATE**

8/3/22



**PATIENT**

Bingo Salib

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.

**SPECIES**

Canine

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

**Pancreas**

**BREED**

Morkie

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.

**SEX**

Intact Male

**Free Abdomen**

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

There is no apparent lymphadenopathy noted in these images.

**AGE**

7 Years

**ULTRASONOGRAPHIC FINDINGS**

- Prostatic cyst
- Age related kidney changes

**WEIGHT**

5 kg

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

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The bile acids were reportedly increased. If the increase was significant (>100), ultrasound using power doppler of the porta hepatis or an abdominal CT scan, or possibly both, would be recommended for further investigation of a possible extrahepatic portosystemic shunt. In the meantime, in addition to the reportedly pending fine needle aspirate results, recommendations include an "antigen search" for sources of reactive hepatopathy (including testing for Leptospirosis), followed by a course of empirical antibiotics and hepatic nutraceuticals, with monitoring of ALT for improvement. If improvement is not noted and/or enzyme increase progresses, a liver biopsy may be warranted.

**IMAGING PERFORMED BY**

Kelly Reschny

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**REFERRING VET**

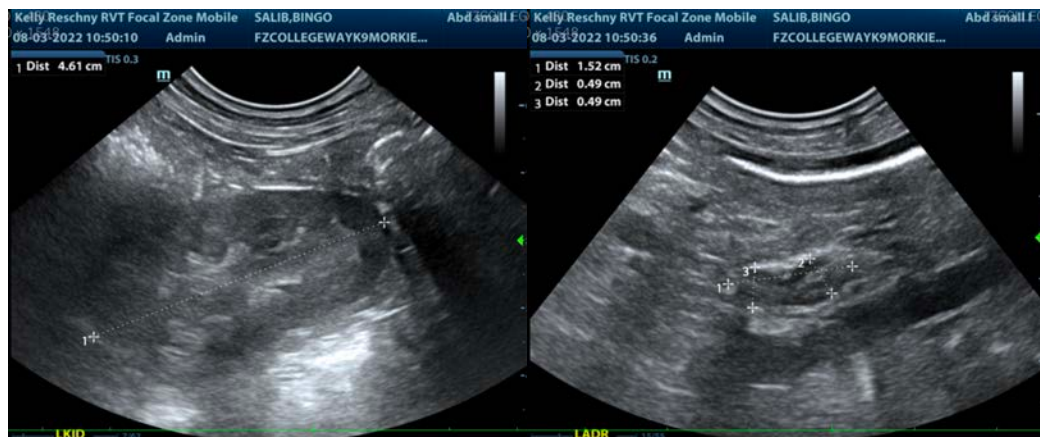
Dr. Hanna

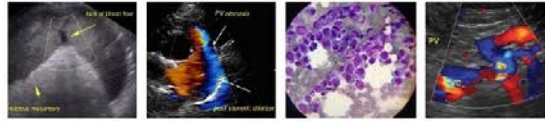
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**PATIENT**

Bingo Salib

**SPECIES**

Canine

**BREED**

Morkie

**SEX**

Intact Male

**AGE**

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**WEIGHT**

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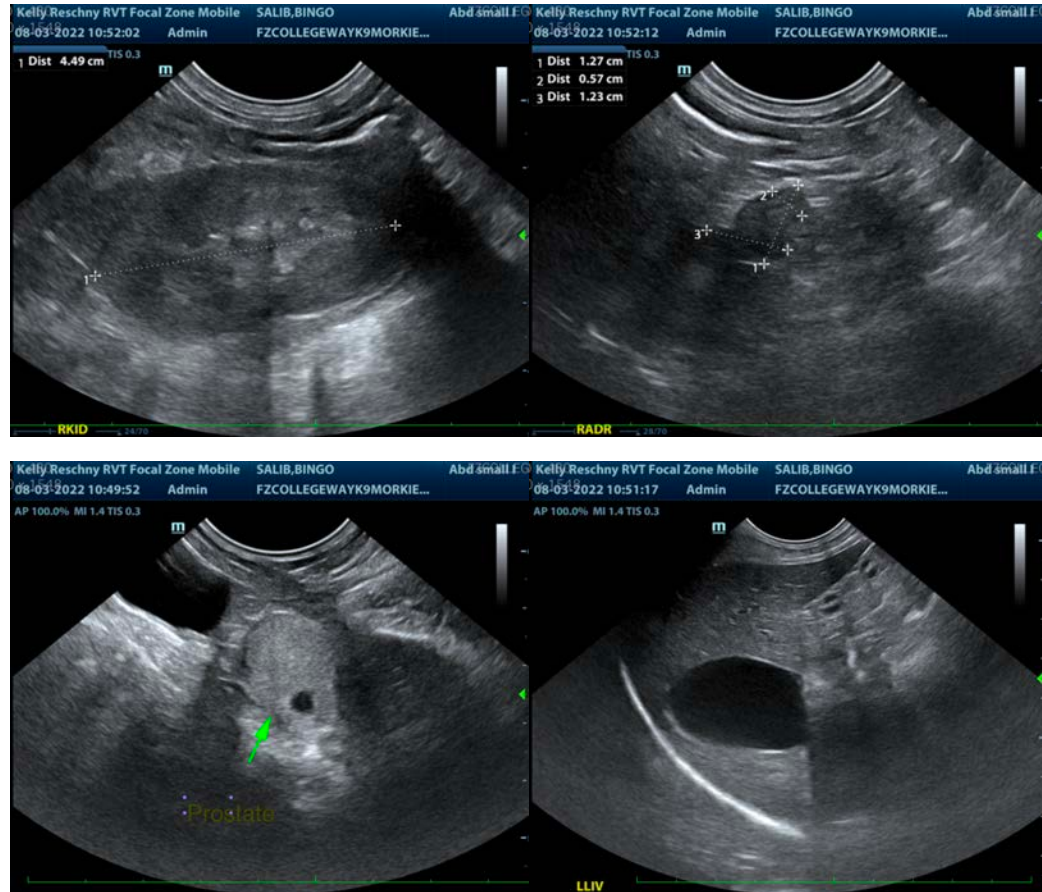
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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