

## PATIENT

Jayb Pinkston

## PRESENTING CLINICAL SIGNS

## SPECIES

Canine

5/6 systolic heart murmur- rad report showed VHS 11.8- lethargy, decreased appetite, acting differently, Current meds' carprofen and gabapentin- Cardiology report- pimobendan could be started based on VHS and mild LV and LA enlargement but abdomen ultrasound recommended first due to elevated liver values- no sedation but dog was panting and getting restless 3/4 way through of the scan

## BREED

Pit Bull

Abnormal PE/Chem/CBC/UA Results: ALT 396, ALKP 1059, SDMA >100, All else WNL-Crea 1.0, BUN 12, AMYL 989

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### SEX

#### *Urinary System*

Neutered Male

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

### AGE

9 Years

The prostate is normal in size (1.37 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

### WEIGHT

48 Pounds

The left kidney has a normal shape and size (6.51 cm). Overall echogenicity is normal with mildly reduced corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

## INTERPRETED BY

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

The right kidney has a normal shape and size (6.19 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

#### *Adrenal Glands*

The left adrenal gland is normal in size measuring 0.72 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

## HOSPITAL NAME

North Hills VC

The right adrenal gland is normal in size measuring 0.71 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

## REFERRING VET

Dr. Adam Gonzales

#### *Spleen*

The spleen is subjectively normal in size and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal.

## INVOICE

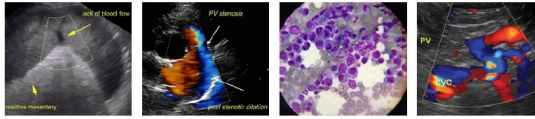
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#### *Liver*

The liver is large in size and irregular in shape. The parenchyma is severely heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and

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4/7/22



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biliary tract appear normal. The hepatic parenchyma itself is severely heterogenous with ill-defined hypoechoic nodules dispersed throughout the parenchyma. Additionally, there are larger, more expansile, iso- to slightly hyperechoic mass lesions that seem to deform the hepatic margins (at least two). These measure 3.72 cm x 3.05 cm and 2.66 cm x 3.29 cm.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

**Pancreas**

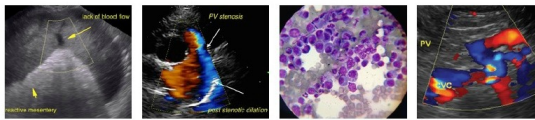
The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

**ULTRASONOGRAPHIC FINDINGS**

- Large, heterogenous liver with hypoechoic nodules and larger, more expansile mass effects – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The lesions visualized in the liver could be consistent with benign or cancerous lesions. Recommend a fine needle aspirate (see images).
- Prominent, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary



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distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

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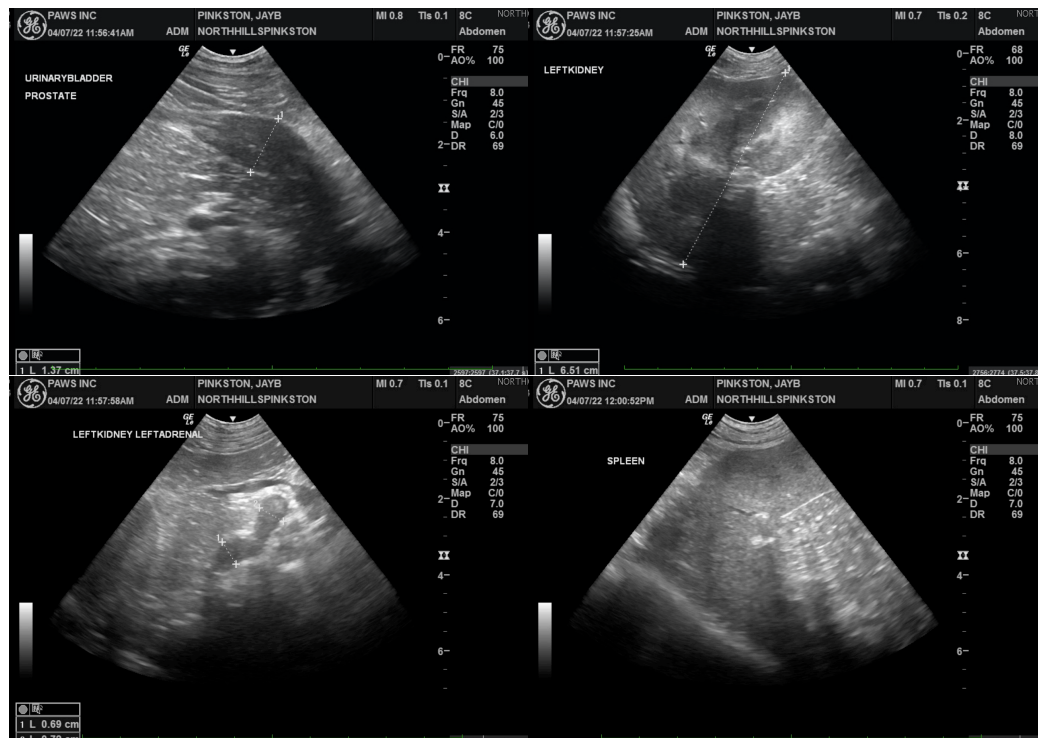
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The appearance of the liver is very abnormal in that there are diffuse hypoechoic nodules throughout the parenchyma in addition to some larger, more expansile type mass lesions. Unfortunately, these could represent both benign or neoplastic lesions. It is difficult to sample all of the lesions present, but my recommendation would be to sample at least one of the larger mass lesions as shown on the images provided, and additionally to get an aspirate of more "normal" appearing liver. It is possible that biopsy of the liver in several locations would be necessary to know the full extent of what is going.

The pancreas is prominent and mottled, but does not appear overtly inflamed. These findings are most consistent with either previous episodes of pancreatic inflammation, or mild chronic inflammation.

Depending on the degree of heart disease present, if the symptoms observed are thought to be not related to the heart disease, then consider a liver function test.





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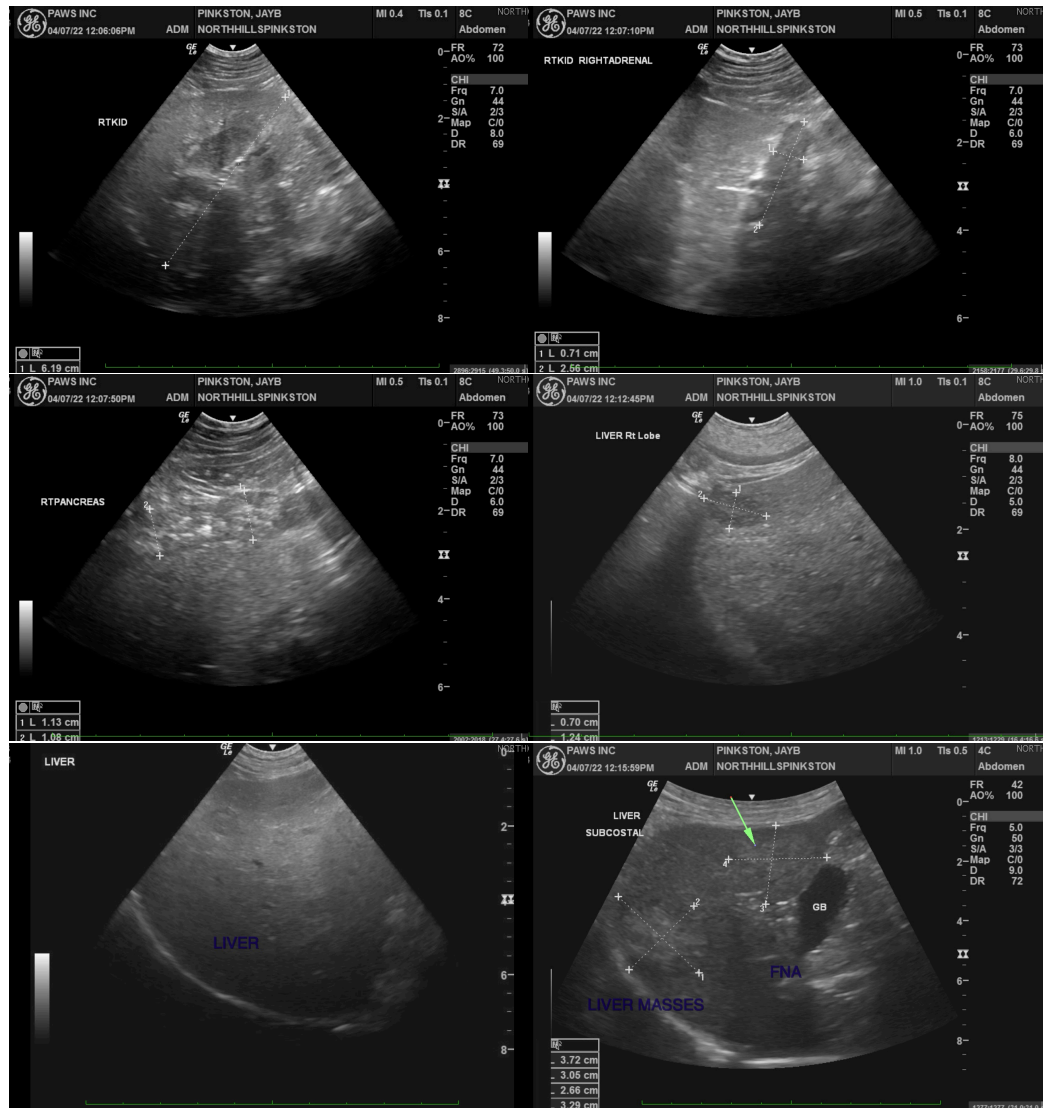
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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