



## PATIENT

Tauca McNall

## SPECIES

Canine

## BREED

Pomeranian X

## SEX

Neutered Male

## AGE

12 Years

## WEIGHT

31 Pounds

## INTERPRETED BY

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

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

## HOSPITAL NAME

Valley Vet Clinic

## REFERRING VET

Dr. Megan Plateman

## INVOICE

37343

## DATE

5/3/22

## PRESENTING CLINICAL SIGNS

Gender (altered?): male neutered Age: 12 yrs Weight (in lbs): 31 lbs Breed: chihuahua/  
Pomeranian mix Chief Concern/Provisional Diagnosis: P has an enlarged liver on radiographs and  
elevated liver enzymes. P has also been previously dx with CHF, has a 3/6 murmur. Diagnosis:  
DDx: liver mass, hepatomegaly, hepatitis History/Physical Findings BCS: 6/9 Hydration status:  
MM Pink, capillary refill time less than 2 seconds. Heart murmur heard on auscultation, 3/6.  
Lungs auscultate normally. Hair coat appears healthy. OU appear normal. AU are clean in visible  
ear canal. Nose appears normal. Mouth appears to have grade 1/4 periodontal disease. LN are  
WNL. Abdomen palpates normally with no palpable masses. No signs of lameness. BW done on  
4/8/2022: ALT= 515, ALP= 429, BUN= 43, BUN: CREAT ratio= 43, platelet count= 578,  
absolute monocytes=1310, all other values WNL. Radiographic Abnormalities: Abdominal  
radiographs revealed an enlarged liver. L kidney is displaced ventrally. Current Therapy and  
Medications: liquitinic 6 ml PO BID, denamarin 225 mg SID, benazepril 10 mg SID, furosemide  
12.5 PO BID, omega

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

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.

The prostate is normal in size (0.69 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.

The left kidney has a normal shape and size (5.08 cm) with a cortical cyst measuring 0.99 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 hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.72 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 hydroureter. Renal vasculature is normal.

### Adrenal Glands

The left adrenal gland is slightly enlarged in size measuring 0.40 cm at the cranial pole, 0.84 cm  
at the caudal pole, and 1.9 cm in length. It is observed in its normal position cranial to the left  
renal artery. It is somewhat irregular in appearance in that the caudal pole is approximately twice  
the size of the cranial pole, but it is generally normal in shape. Findings could be consistent with  
a subtle left adrenal nodule.

The right adrenal gland is normal in size measuring 0.55 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.



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### *Spleen*

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

### *Liver*

**BREED** The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a 1.0 cm x 0.8 cm hypochoic nodule within the parenchyma.

Pomeranian X

## SEX

Neutered Male

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

## AGE

12 Years

### *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.

## WEIGHT

31 Pounds

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.

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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.

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LVT

### *Pancreas*

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

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### *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.

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Dr. Megan Plateman

### *Other*

There is a focal area of tissue dorsal to the urinary bladder that appears to be fat opacity, and is most consistent with a lipoma in this are. Consider a fine needle aspirate to confirm.

## PRIMARY FINDINGS

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Neutered Male

- Prominent caudal pole of the left adrenal gland – differentials include a benign or malignant tumor or normal anatomic variation.
- Decreased corticomedullary distinction in both kidneys with a left-sided cortical cyst – The bilateral renal findings are consistent with age-related change.
- Large, heterogeneous liver with a hypoechoic liver nodule – 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.
- Moderate gallbladder sludge – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

## SECONDARY FINDINGS

### AGE

12 Years

- Suspect lipoma dorsal to the urinary bladder – Consider a fine needle aspirate to confirm.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

### WEIGHT

31 Pounds

The liver is large and very heterogeneous with numerous ill-defined nodular areas as well as a more defined hypoechoic nodule. These lesions are somewhat benign in appearance, but an underlying neoplastic process cannot be excluded as a possibility. The gallbladder has moderate debris within the lumen, but not thickening of the wall or surrounding inflammation. Findings are most consistent with a primary hepatopathy. These are my recommendations to consider for further evaluation.

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- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history

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- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)

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- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)

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Dr. Megan Plateman

- If no response to medical care (denamarin, antibiotics,+/- ursodiol etc...) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.
- Consider Ursodiol therapy due to the moderate amount of debris within the gallbladder lumen.

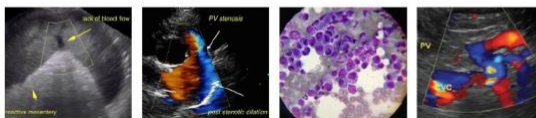
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The caudal pole of the left adrenal gland is prominent, but not significantly enlarged. I would consider blood pressure evaluation, and if signs of Cushing's are present, you can consider

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adrenal function testing. Additional options would be evaluation for surgical removal, etc., but this lesion is subtle enough that I think I would consider continued monitoring with ultrasound to look for changes or symptoms consistent with adrenal dependent disease prior to considering any type of surgical intervention (consider recheck ultrasound in 2-4 months).

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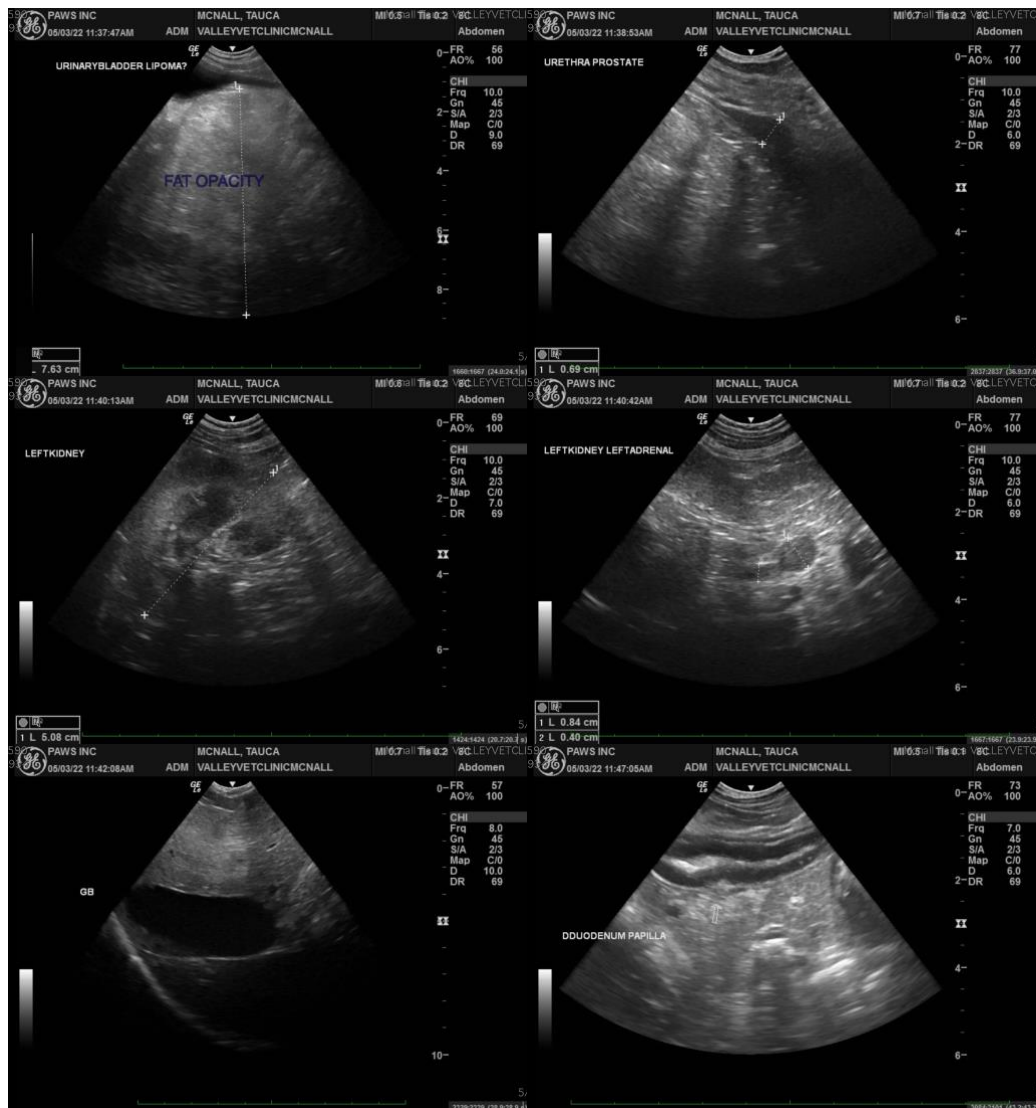
Dr. Megan Plateman

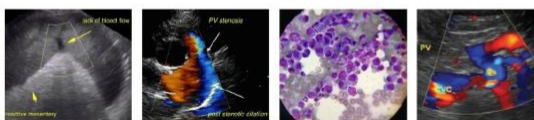
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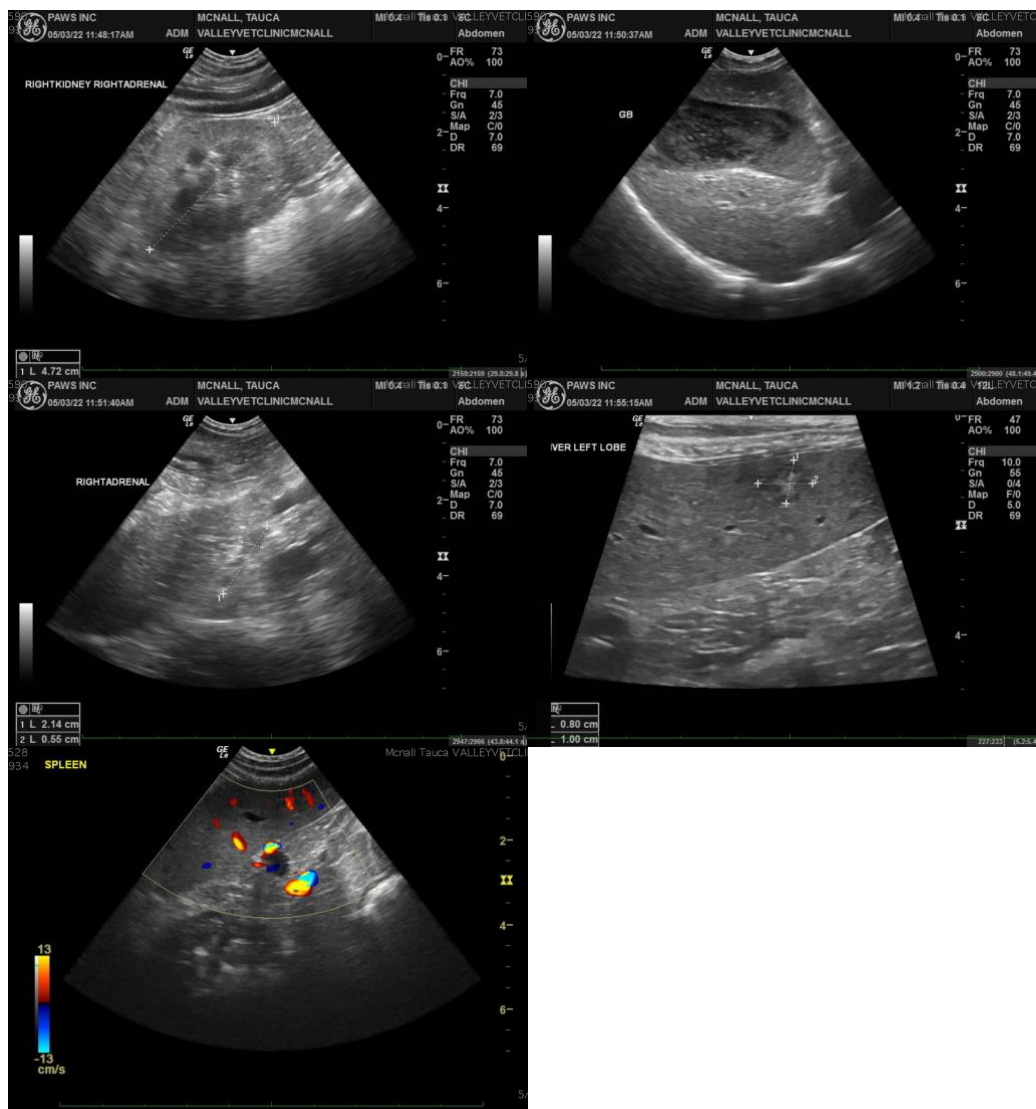
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**REFERRING VET**

Dr. Megan Plateman

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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