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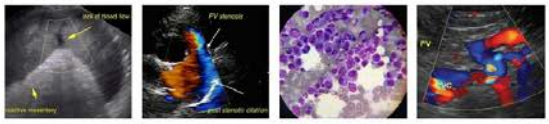


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Yoshi Peek

SPECIES

Canine

BREED

Akita

SEX

Spayed Female

AGE

3/14/10

WEIGHT

36.4 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Truckee Meadows VH

REFERRING VET

Dr. Rachel Kuester

INVOICE

43403

DATE

6/22/23

PRESENTING CLINICAL SIGNS

Markedly elevated ALP noted on senior labs. Performed radiographs. See report: 3/2023 Total Body Function: Total Body Function ALP 1397 NEUs 10624 3/2023: Radiology report Conclusion Borderline hepatomegaly with possible nodularity. cranial soft tissue mass Abdominal ultrasound could be performed for further evaluation as clinically indicated. Prominent aortic root may be incidental normal variant but can be associated with systemic hypertension. Marked left coxofemoral joint osteoarthritis. Multifocal chronic IVDD. O reports mild fecal incontinence

Abnormal PE/Chem/CBC/UA Results: Aspirate of mass submitted to LAB

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, or masses. There is a moderate amount of shadowing dependent debris in the urinary bladder most consistent with sandy mineralized debris.

The left kidney has a normal shape and size (6.26 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 (6.59 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 normal in size measuring 0.83 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.

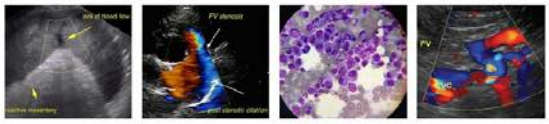
The right adrenal gland is normal in size measuring 0.83 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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

The liver is subjectively normal in size, and 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 small hyperechoic nodule visualized within the parenchyma measuring 1.29 cm x 1.3 cm.



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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and 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 area of 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.

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.

Other

There is a mixed echogenic mass effect visualized in the left cranial abdomen measuring 4.35 cm x 3.9 cm. This does not appear to demonstrate significant color flow with mildly hyperechoic surrounding mesentery. No connection to the liver or spleen can be visualized.

ULTRASONOGRAPHIC FINDINGS

- Sandy mineralized dependent debris in the urinary bladder – Recommend urinalysis and culture.
- Heterogeneous liver with small hyperechoic 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.
- Mixed echogenic mass effect visualized in the left cranial abdomen – An association of this mass with other abdominal structures is not visualized. There could be a connection to the liver or spleen that is not visualized, or this could be a mesenteric lesion (chronic lipoma, abscess, abnormal lymph node, etc.).

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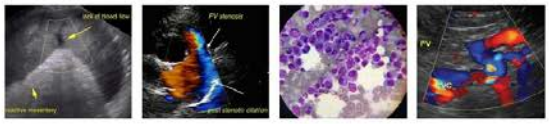

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver appears somewhat heterogeneous with an ill-defined hyperechoic nodule. These changes are non-specific and the appearance of the hyperechoic nodule trends towards a benign process. Consider the following for further evaluation of a primary ALP elevation.

- Induction phenomena are the most common cause for an elevation in ALP. These are systemic illnesses that 'turn on' the liver enzyme. Causes of this include Cushing's disease, dental disease, arthritis, and numerous others. In many cases the exact cause is unclear but as long as ultrasound and bile acids tests are normal most patients do not have progressive changes in their liver. While liver biopsy is not routinely performed, vacuolar hepatopathy, is noted on most biopsies. This is often non-progressive but in rare cases can be more severe and lead to liver failure.

- If signs of cushings disease are present recommend endocrine function testing to evaluate for cushings disease.

- Consider fine needle aspirate to rule out round cell neoplasia -if this is a concern.

- If a cause for the ALP elevation is not identified: I recommend recheck general blood work every 6 months, ultrasound once per year, and bile acids test every 1-2 years based on other results. If the ALP continues to climb a biopsy could be considered.

- Consider long term use of denamarin, and monitoring for the signs of cushings developing.

- A primary vacuolar hepatopathy can be breed related and is seen in Scottish Terriers, Schnauzers, Cocker spaniels etc..

There is a mixed echogenic mass effect visualized in the left cranial abdomen. This does not appear to have significant blood flow on color doppler. An association with this lesion and the liver or spleen is not clearly identified. Suspect an omental lesion such as a necrotic lipoma, lymph node, etc. Consider a contrast CT scan to further evaluate this lesion for possible surgical planning. Additionally, a fine needle aspirate could be considered.

There is some dependent sandy debris visualized in the urinary bladder. Correlate with abdominal radiographs, a urinalysis and culture.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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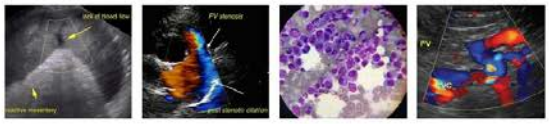

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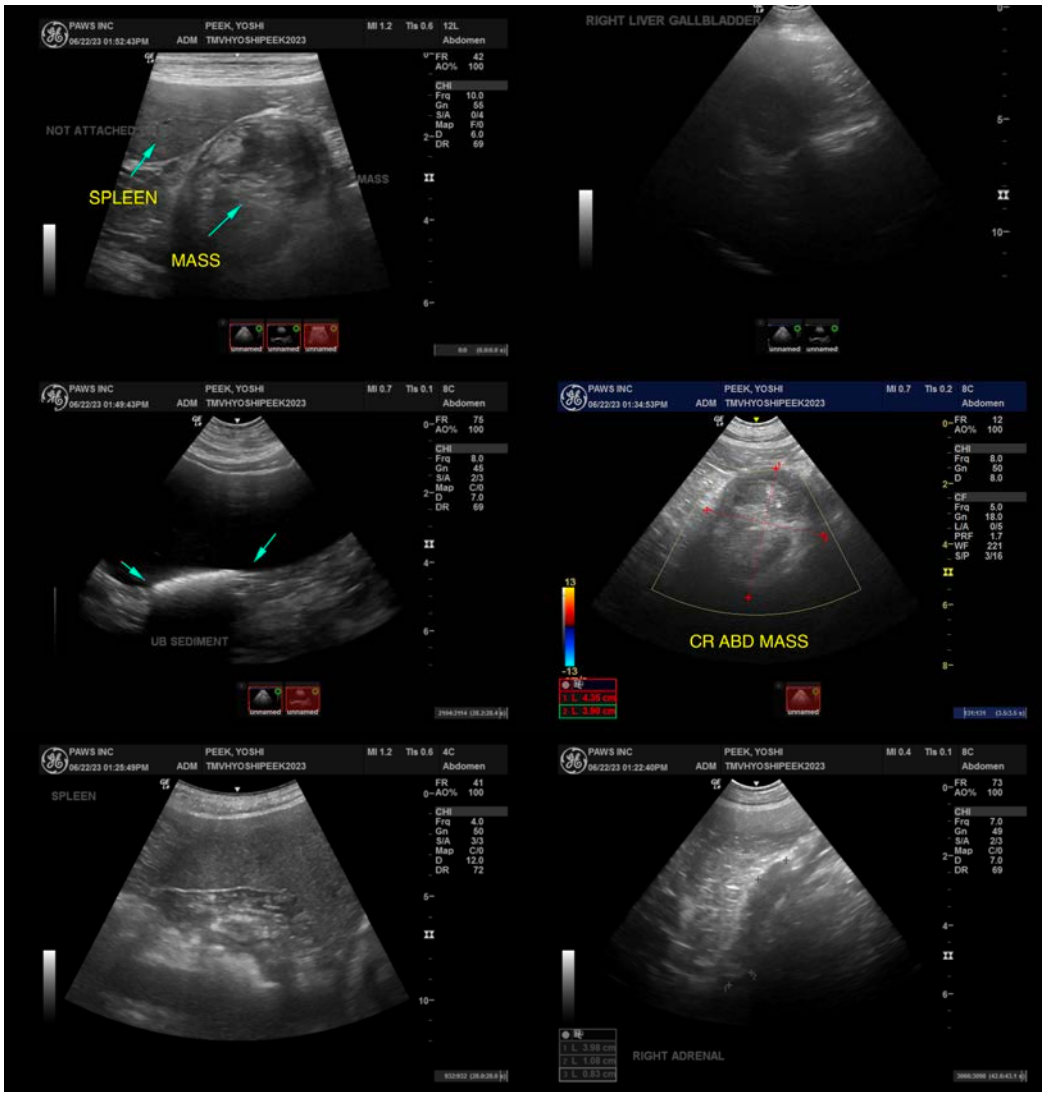

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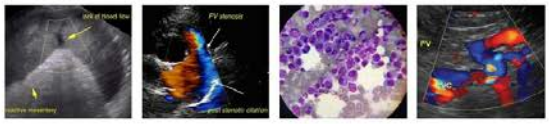

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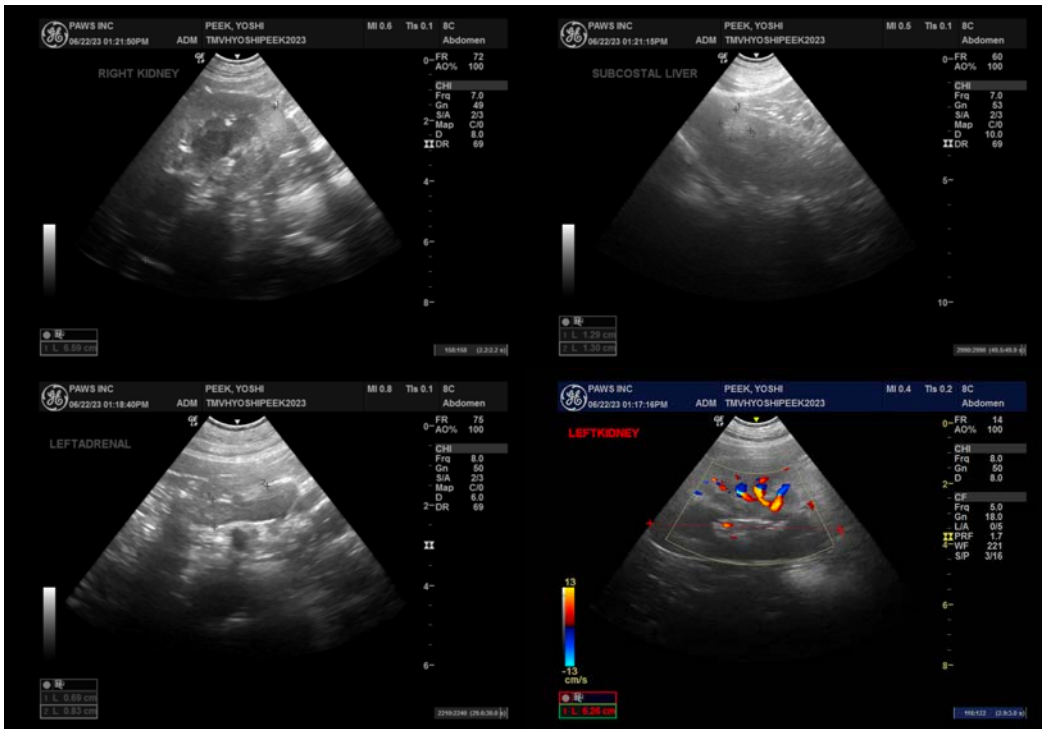

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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