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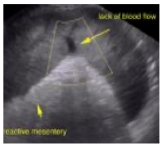
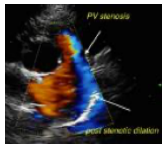
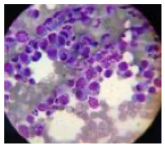
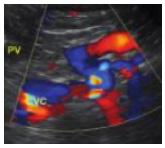

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1-800-838-4268 info@sonopath.com

PATIENT

Bruno Arias

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male 7515

AGE

17 years

WEIGHT

6.7 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Ferrer, DVM

HOSPITAL NAME

Paseos VC

REFERRING VET

Dr. Sosa

INVOICE

13587

DATE

7.6.23

PRESENTING CLINICAL SIGNS

History: Patient presented as a referral for an abdominal ultrasound to evaluate increased liver enzymes. Pt is on Denosyl 90mg and a Hepatic diet. Pt also has chronic coughing.

Abnormal PE/Chem/CBC/UA Results: CBC RBC: 5.41 (5.65-8.87) MCV: 73.8 (61.6-73.5) MCH: 26.4 (21.2-25.9) RETIC: 128.2 (10.0-110.0) NEU: 12.07 (2.95-11.64) BASO: 0.16 (0.00-0.10) PCT: 0.51 (0.14-0.46) CHEM ALT: 787 (10-125)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly to 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 small amount of suspended and dependent hyperechoic debris (most consistent with small sandy mineralizations or small stone). The dependent material measures at 0.22 cm.

The prostate is normal in size (0.80 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 (3.02 cm). Overall echogenicity is normal with adequate 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 (3.47 cm). Overall echogenicity is normal with adequate 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 normal in size (0.38 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.

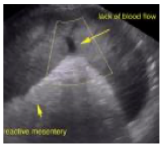
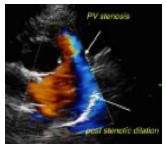
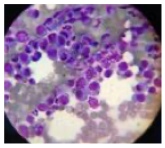
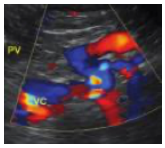
The right adrenal gland is normal in size (0.38 cm at the caudal pole). It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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 large in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

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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.

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 (0.42 cm) and the jejunum measured as normal (0.31 cm) 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 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.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Pinpoint suspended independent mineralizations in the urinary bladder. Findings are suspicious for small amount of sandy debris/small stones. Recommended urinalysis, culture confirming with radiographs.
- Large mildly heterogenous liver- 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 debris –The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Today's scan appears surprisingly normal for a geriatric Chihuahua. The liver does appear large, with some focal mottled areas, but a discrete mass effect could not be identified. Findings are suggestive of a nonspecific diffuse hepatopathy. Consider the following:

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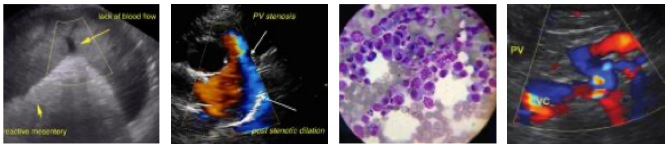

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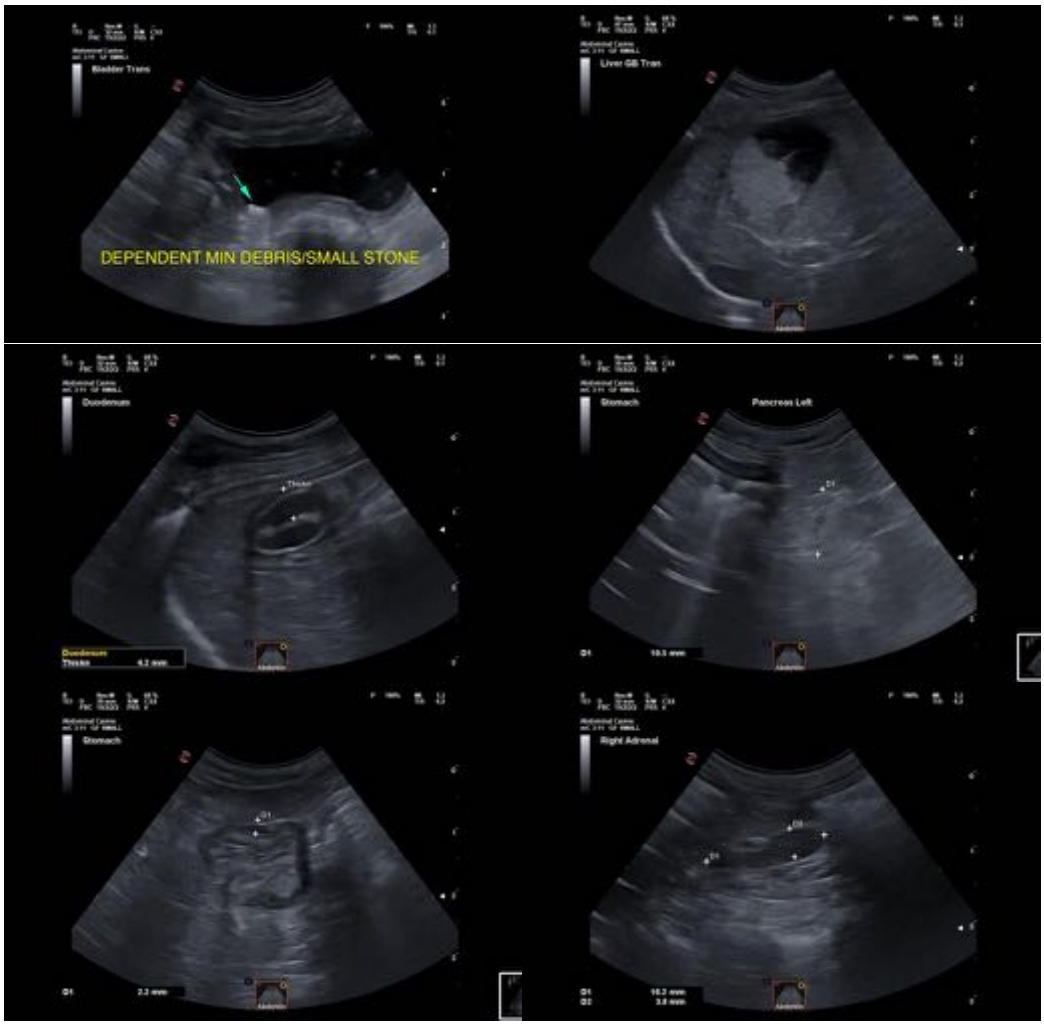
- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc.
- Recommend thyroid evaluation (if not already done)
- If not already done, consider pre and post prandial bile acids to evaluate liver function.
- If cytology is not helpful and there is no response to therapy, consider liver biopsy with samples obtained for histopathology and culture.
- If "triaditis" is suspected (chronic GI signs, concurrent pancreatic changes on US) consider therapy for cholangiohepatitis (fluids, ursodiol, probiotics, +/- steroids/antibiotics), testing for pancreatitis and evaluation for IBD (GI panel to Texas A&M GI lab)
- Consider a feeding tube if patient is not eating for a prolonged period of time.

There is a moderate amount of debris in the gallbladder with minimal surrounding inflammation or wall thickening. Recommended continued monitoring. Ursodiol treatment could be considered.

There are occasional, small suspended and dependent areas of hyperechoic shadowing material visualized in the urinary bladder. I suspect these are consistent with small amounts of sandy debris/small stones. Correlate with abdominal radiographs, urinalysis and culture.



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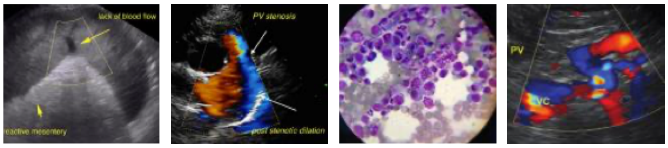

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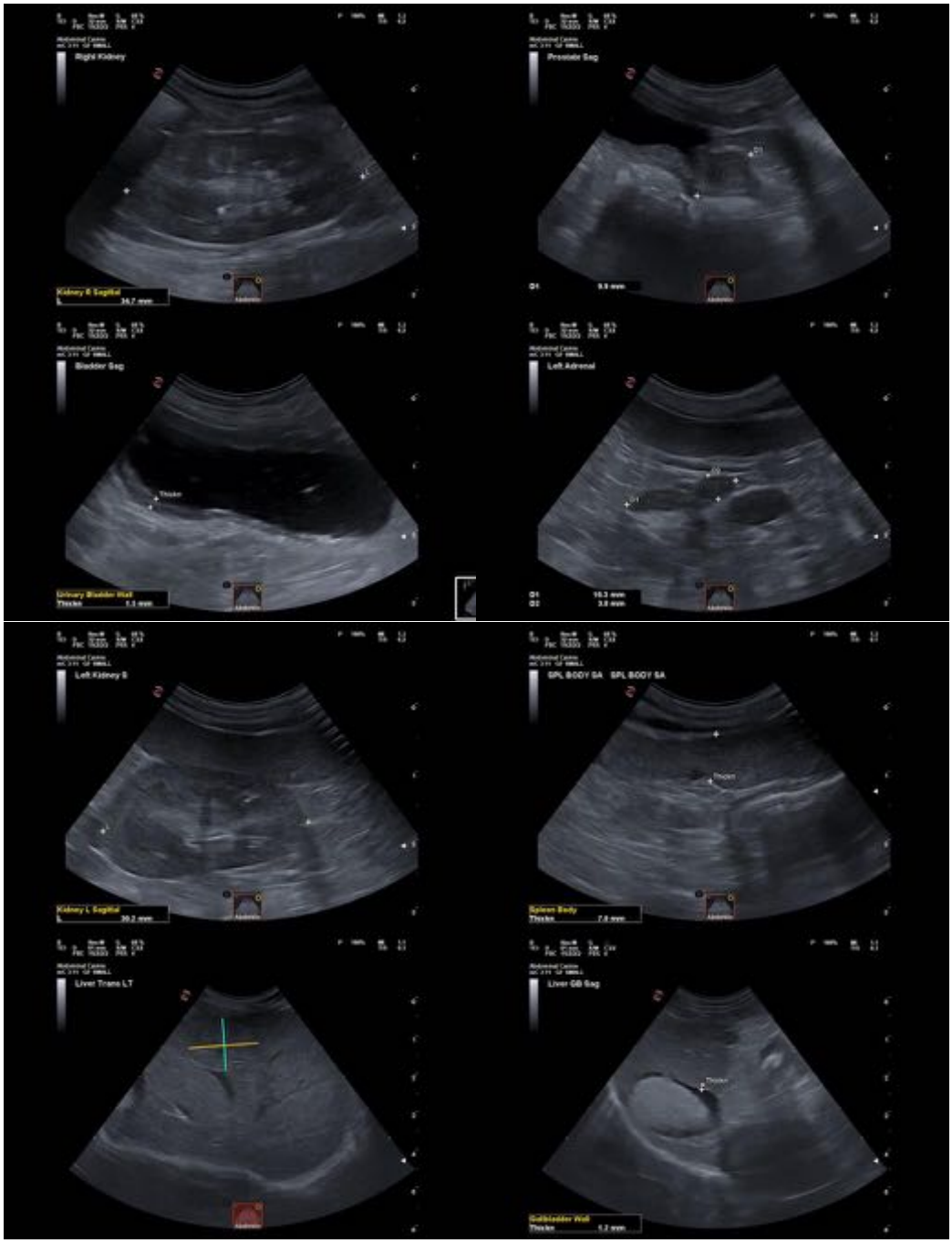

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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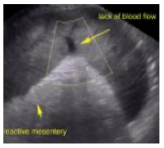
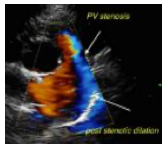
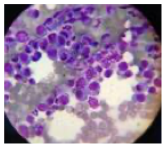
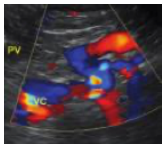

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