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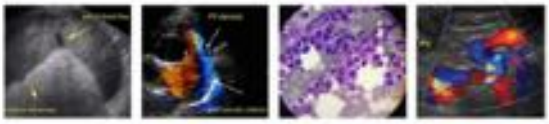


IMAGING PERFORMED BY
pawsonography@gmail.com 530-708-8340

PATIENT
Zeus Sandoval

SPECIES
Canine

BREED
Terrier Mix

SEX
Intact Male

AGE
12 years, 3 mos

WEIGHT
22.8 kg

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

IMAGING PERFORMED BY
Loetitia Saint-Jacques, LVT

HOSPITAL NAME
MountainView AH

REFERRING VET
Dr Laura Watson

INVOICE
13605

DATE
7.7.23

PRESENTING CLINICAL SIGNS

History: Chronic cough that has been treated w/ Temaril P, marshmallow root, doxycycline and hydrocodone and has not been resolved. Heart murmur 3/6. Enlarged liver. Overweight. Also on thyroxine.
Abnormal PE/Chem/CBC/UA Results: Last Labs 11/22 NSF

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 large in size (2.68 cm in height in the sagittal view), slightly irregular, and hyperechoic with smooth external margins. The parenchyma is heterogenous with numerous small cysts throughout the parenchyma. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.56 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 (4.22 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 (0.35 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.

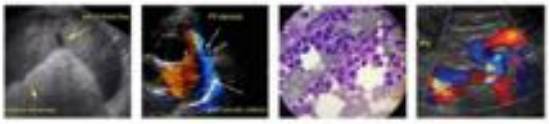
The right adrenal gland is normal in size (0.69 cm at the caudal pole). It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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. There is a mixed echogenicity mass effect visualized cranial to the left kidney (2.44 x 2.60 cm). This appears to be arising from tissue, most consistent with spleen. No free fluid is noted.

Liver

The liver is subjectively large 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 are numerous ill-defined hypoechoic nodules throughout the parenchyma, the largest of which measures approximately 1.11 x 2.90 cm. Others measure 1.90, 0.77, 0.89 and 0.74 cm.



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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. 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 <0.70 cm 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 (0.50 cm) and the jejunum measured as normal (0.37 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 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. There is a prominent mesenteric lymph node visualized (1.03 x 1.79 cm. 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.

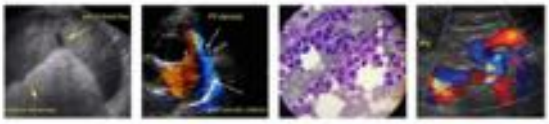
Other

Both testicles are visualized. The left testicle appears normal (2.12 x 1.02 cm). The right testicle is larger (1.00 x 1.79 cm), with a large, hyperechoic nodule (1.34 x 1.21 cm).

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Large, irregular, hyperechoic, heterogenous prostate with numerous, small parenchymal cysts - Findings are most consistent with benign prostatic hypertrophy +/- prostatitis.
- Mixed echogenicity mass effect arising from the spleen – A focal solid mixed echogenicity mass is visualized associate with the spleen. This mass distorts the splenic capsule. Differentials include: benign lesions (lymphoid hyperplasia, hemangioma etc.). or cancerous lesions (hemangiosarcoma, lymphoma, histiocytic sarcoma etc.).
- Prominent mottled right limb of the pancreas - The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.



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- Large heterogenous liver with numerous, ill-defined hypoechoic nodules – 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 nodules observed trend toward a more benign process, but underlying neoplasia cannot be ruled out.

- Prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

- Hyperechoic nodule in the right testicle - There is a nodule visualized in the testicle. Consider such differentials as benign or neoplastic lesions such as Leydig cell tumor, Sertoli cell tumor, seminoma, granuloma, etc. Recommend neuter with histopathology (as treatment of choice), or cytology.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a mixed-echogenicity mass effect visualized cranial to the left kidney, which appears to be arising from the spleen. A direct connection with this structure and the normal splenic body is not visualized, but I suspect it is somewhat folded. Options moving forward would include a fine-needle aspirate or a splenectomy for both diagnostic and therapeutic purposes.

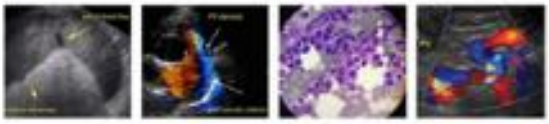
The prostate is large, hyperechoic, and heterogenous with numerous, small, parenchymal cysts. This is most consistent with a cystic prostate. Recommend a urinalysis and culture and either neutering, or if this is not possible, then consider a testosterone blocker (Finasteride).

The liver is heterogenous, with numerous, ill-defined hypoechoic nodules. The appearance of these nodules trends toward a more benign etiology (such as regenerative nodules, etc.), although, given the splenic lesion, metastatic disease lesions cannot be definitively ruled out.

There is a nodule visualized within the right testicle. Recommend neutering with histopathology for further evaluation. If this is not possible, a fine-needle aspirate could be considered.

Although the mass lesion cranial to the left kidney is strongly suspected to be splenic in origin, a contrast CT scan could be considered to confirm and for presurgical planning.

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



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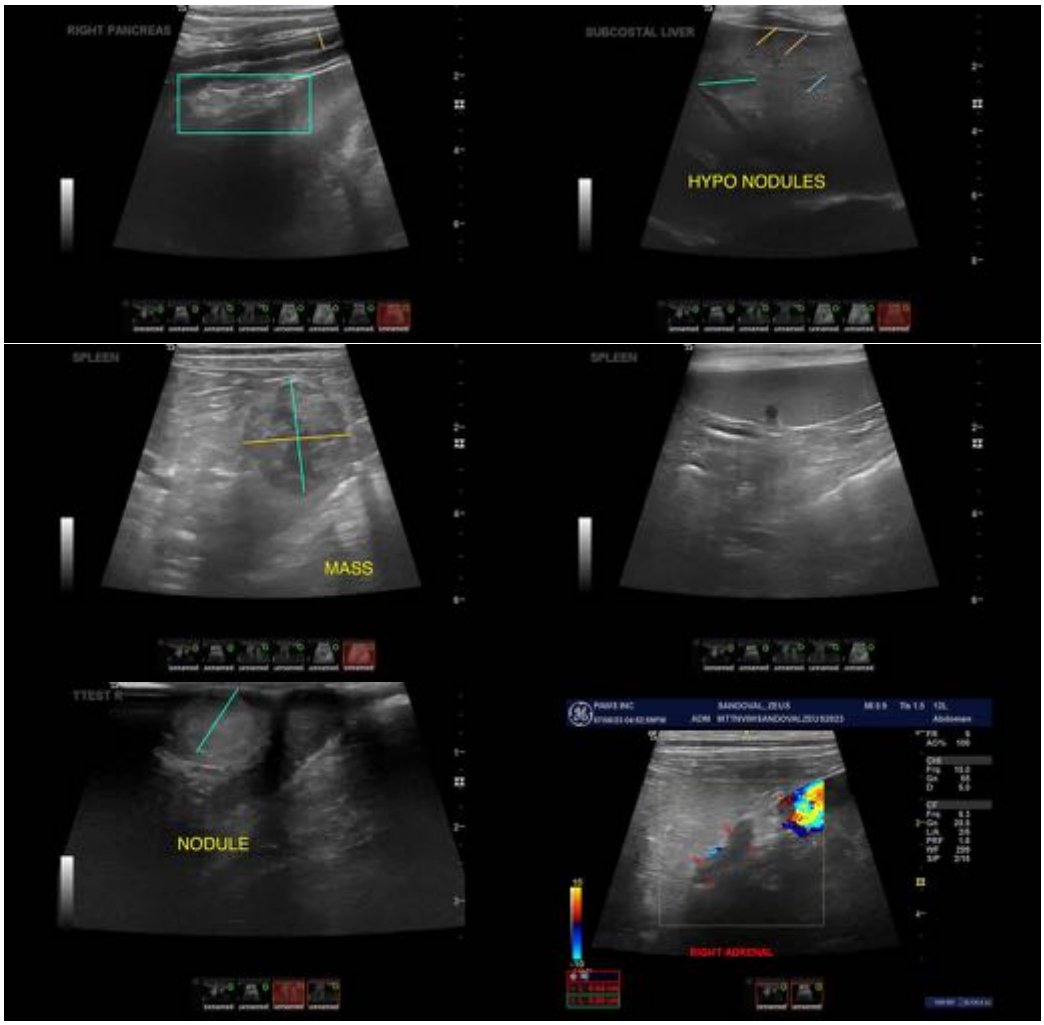

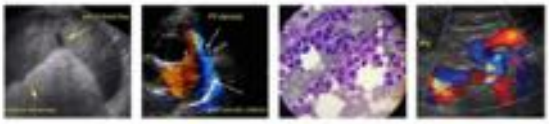

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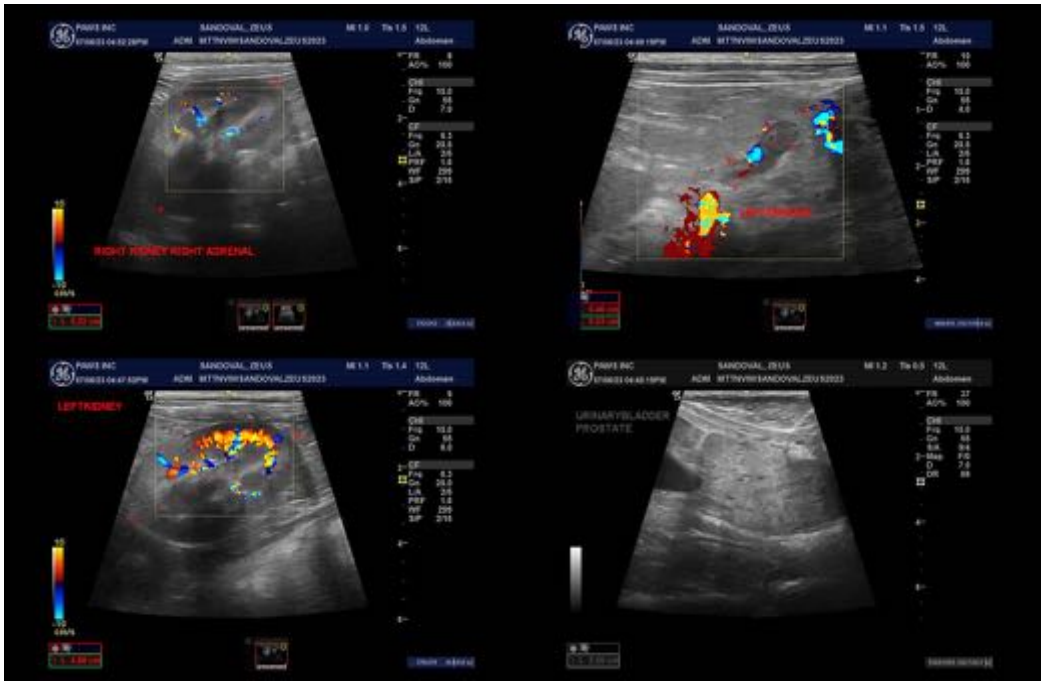

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small animal Internal Medicine)
info@SonoPath.com