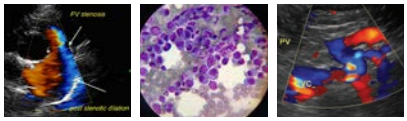
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

1/11/23

PATIENT

Benson Senesi

SPECIES

Canine

BREED

Shih Tzu X

SEX

Neutered Male

AGE

11/16/06

WEIGHT

19.4 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Everhart Cross Keys

REFERRING VET

Dr. Notarangelo

INVOICE

44109

PRESENTING CLINICAL SIGNS

History of mild CKD for past 2 years, managed on SQF SIW in hospital as owner unable to give at home. Longstanding heart murmur but previous echoes showed stable disease, though not scanned in >2 years per owner.

Pet is sedated every few months for grooming. Recent labs showed progression of kidney levels despite 3 days of in-hospital diuresis, concerning increasing hypercalcemia. 2/6 systolic PMI L apex. Intermittent cough at home managed on cough tabs and hydrocodone.

Current Medications: All medications have been given for >3-6 months
hydrocodone 5 mg: 1/4 to 1/2 q 12 h PRN, LRS 200 ml SIW, gabapentin 100 mg: 1 q 8-12 h PRN, cough tabs: 1/4 q 6-12 hours, cerenia 24 mg PRN, aluminum hydroxide 250 mg BID, fluoxetine 10 mg: 1 SID
Lab Results: 12/22/22: BUN 96, Ca 13.8, phos 6.7, crea 3.3. 12/8/22: BUN 101, crea 3.4, ca 12.5, phos 7.3. 9/27/22: BUN 78, crea 2.8, phos 6.4, ca 12.4
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris and some dependent shadowing/sandy debris present (this is mobile and can be seen in the trigone, pre-prostatic urethra, and early prostatic urethra). 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 calculi. Echogenic debris of this type can be associated with small crystals, sandy debris or small calculi. Correlate findings with abdominal radiographs, urinalysis and culture.

The prostate is normal in size (0.97 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 (4.34 cm) with numerous cortical cysts, pyelectasia at 0.20 cm, and small speckling of the cortex, most consistent with mineralizations. Overall echogenicity is slightly hyperechoic with poor 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 infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.86 cm) with numerous cortical cysts and small speckling of the cortex, most consistent with mineralizations. Overall echogenicity is slightly hyperechoic with poor 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.67 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 0.66 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 normal in size with normal echogenicity and smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. There is a small subtle hyperechoic nodule visualized measuring 0.94 cm.

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 uniform diameter with minimal fluid distension. Wall thickness is moderately increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Duodenum wall measures 0.49 cm. Jejunum wall measures 0.35 cm. There is some mucosal speckling visualized, and additionally some irregular hyperechoic mottling of the mucosa, which I suspect is a variant of fogging. 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 right limb of the pancreas is prominent and hypoechoic as 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

- Small amount of sandy debris/small stones visualized in the dependent portion of the urinary bladder and proximal/pre-prostatic urethra – recommend urinalysis and culture.

- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts, mild speckling of the renal cortex, and mild left-sided pyelectasia – These changes are most consistent with chronic progressive renal disease and mild mineralizations. Recommend a urinalysis and culture.

- Hypoechoic, prominent 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.

- Small, hyperechoic liver nodule – The appearance of this lesion trends towards a benign nodule. Recommend continued monitoring.

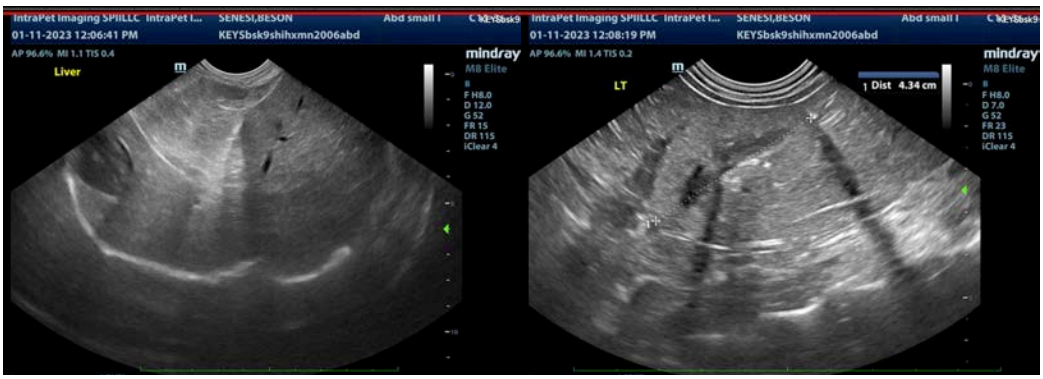
- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

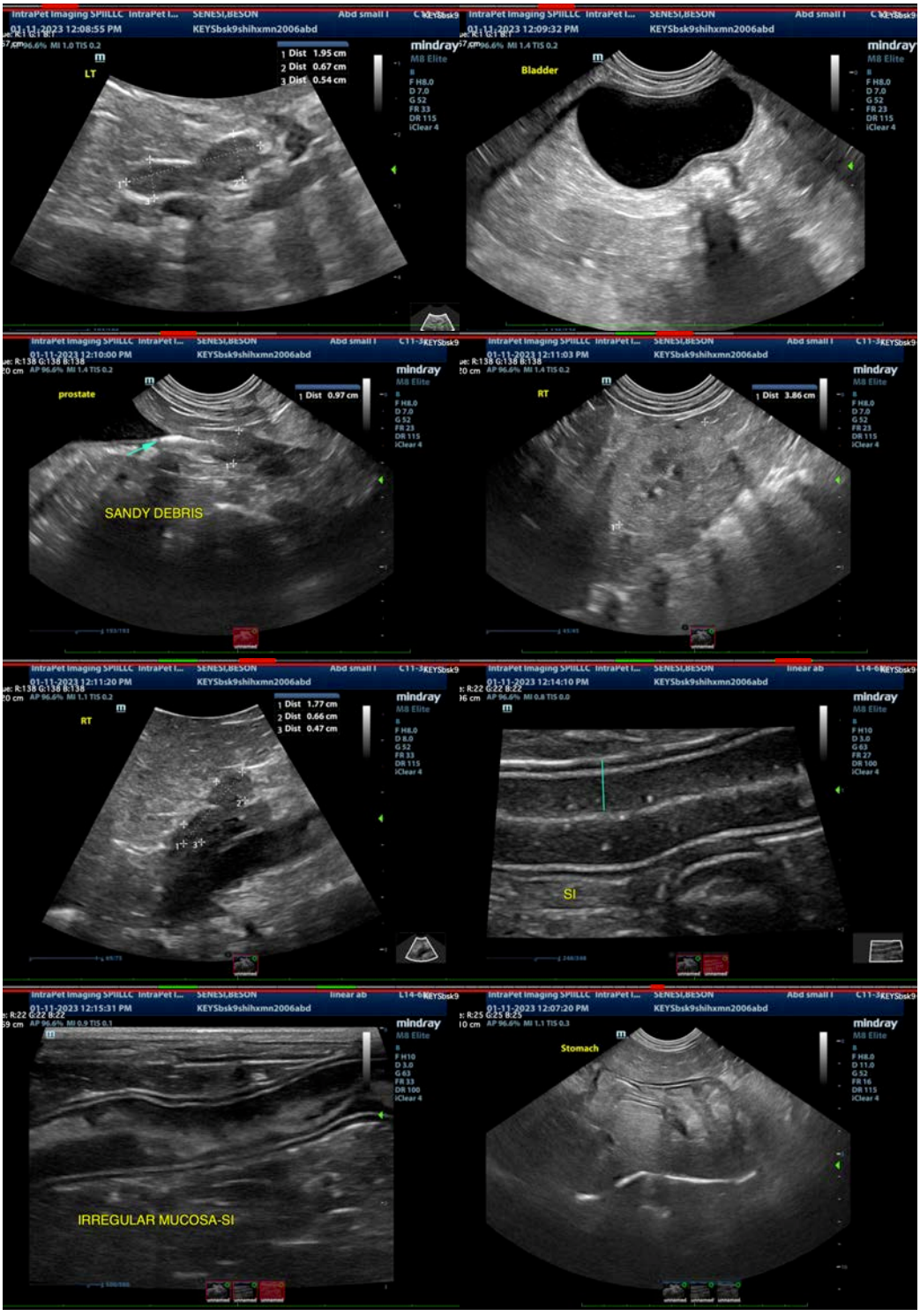
- Subjectively thickened small intestine with mucosal speckling and irregular mottling of the mucosa – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts. The prominent, irregular mottling visualized is likely a variant of speckling due to inflammation, mucus accumulations, etc. Recommend continued monitoring.

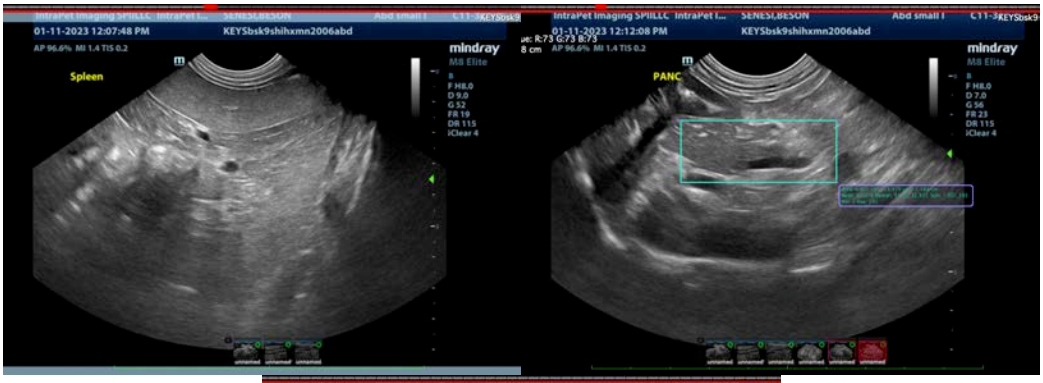
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

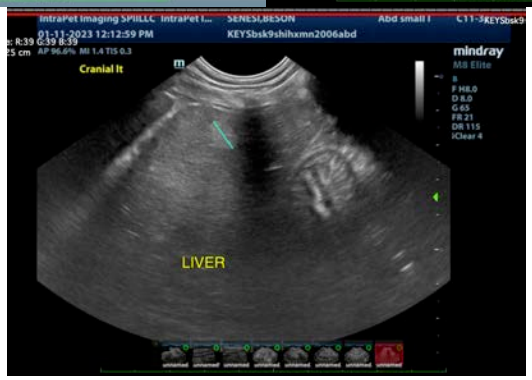
Both kidneys have changes most consistent with chronic progressive renal disease. There is no evidence of obstruction, severe pyelonephritis, mass lesions, etc. If not already done, recommend a blood pressure evaluation, urine protein to creatinine ratio, and consider an ionized calcium/PTH to further evaluate the hypercalcemia, and recommend a digital rectal exam (if not already done) to evaluate the anal glans for a mass lesion.

The small intestine appears subjectively mildly thickened with some changes of the mucosa (mottling/speckling). Correlate with the patient's history. Is there a history of chronic GI issues? If so, this could reflect that, and biopsies of the GI tract could be considered to further evaluate. If no signs of underlying gastrointestinal disease are present, the significance of this is unknown.




LT
Dist 1.95 cm
Dist 0.67 cm
Dist 0.54 cm
Bladder
prostate
Dist 0.97 cm
SANDY DEBRIS
RT
Dist 3.86 cm
RT
Dist 1.77 cm
Dist 0.66 cm
Dist 0.47 cm
SI
IRREGULAR MUCOSA-SI
Stomach





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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