

**PATIENT**

Pebbles Beaudoin

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

9.7 Pounds

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

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**Wixom Family Pet  
Practice**INVOICE**

38718

**DATE**

6/15/22

**PRESENTING CLINICAL SIGNS**

Current Medications: Bravecto and Interceptor Plus Patient History: Mildly elevated ALP 289 (5-131 IU/L) on yearly blood work, asymptomatic at this time. Chronic thrombocytosis 619 (170-400  $10^3/uL$ ) Abnormal PE/Chem/CBC/UA Results: Mild diffuse tartar/gingivitis. Left cheek has chronic draining fistula, responsive to antibiotics. \*\*See attached BW

**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 left kidney has a normal shape and size (3.58 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 (3.72 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 normal in size measuring 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 large in size measuring 0.74 cm at the cranial pole, 1.49 cm at the caudal pole, and 2.47 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is atypical in appearance in that the caudal pole is significantly enlarged, creating a mass effect. There is no obvious evidence of vascular invasion.

**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.

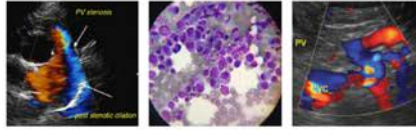
**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

**Gastrointestinal**

The stomach is dilated with a large amount of fluid and irregular shadowing material most consistent with normal ingesta and gas. It measures at a normal thickness of <0.7cm with some variability due to

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the presence of rugal folds. The distinction of the gastric wall layering 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 appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measured 0.36 cm. Jejunum wall measured 0.22 cm. There is mucosal speckling on the duodenum. 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 (0.16 cm). 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, particularly in the right limb. 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**

- Enlarged caudal pole of the right adrenal gland – most consistent with a right adrenal mass. Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Large amount of fluid and ingesta visualized in the lumen of the stomach - Correlate with feedings history and abdominal radiographs. If adequately fasted then consider such differentials as delayed gastric emptying or a partial outflow tract obstruction (none visualized).
- Subjectively thickened small intestine with mild mucosal speckling – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

**SECONDARY FINDINGS**

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- 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.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is a nodule/mass involving the caudal pole of the right adrenal gland. I do not see any evidence of clear vascular invasion, but this is still a possibility. These masses can be benign or malignant and can secrete hormones or be non-active. Options moving forward include:



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- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane and/or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)-This can be a challenging surgery with significant risk for complication
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- Due to the invasive nature of these masses a CT scan is recommended to evaluate for metastasis and vascular invasion.
- If no symptoms of cushings are present, consider either referral for surgery or if surgery is not an option consultation with a veterinary oncologist regarding chemotherapeutic options and continued monitoring with ultrasound (in 4-6 weeks) can be considered.
- Some aggressive adrenal tumors can grow quickly and there is risk for acute hemorrhage from vascular invasion. Some can be non-active and very slow growing, having a more benign nature.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

There is mild mucosal speckling evident in the small intestine. This can be an indicator of inflammation, underlying GI disease, etc. If there are currently no symptoms of underlying GI disease, then this can just be monitored.

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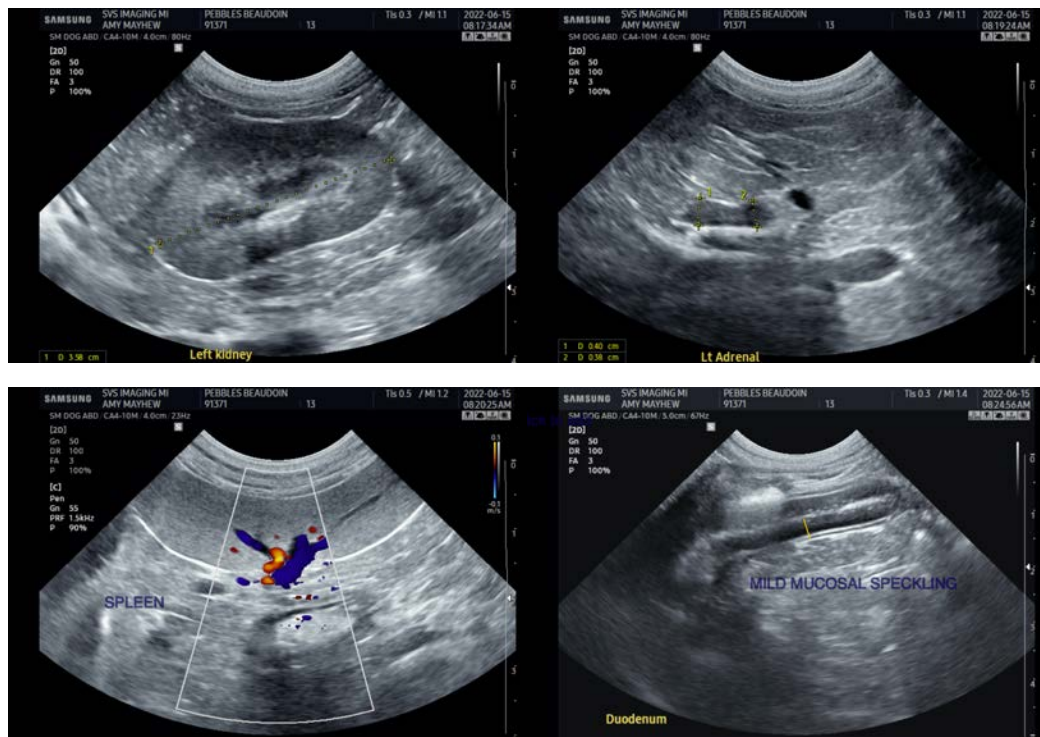
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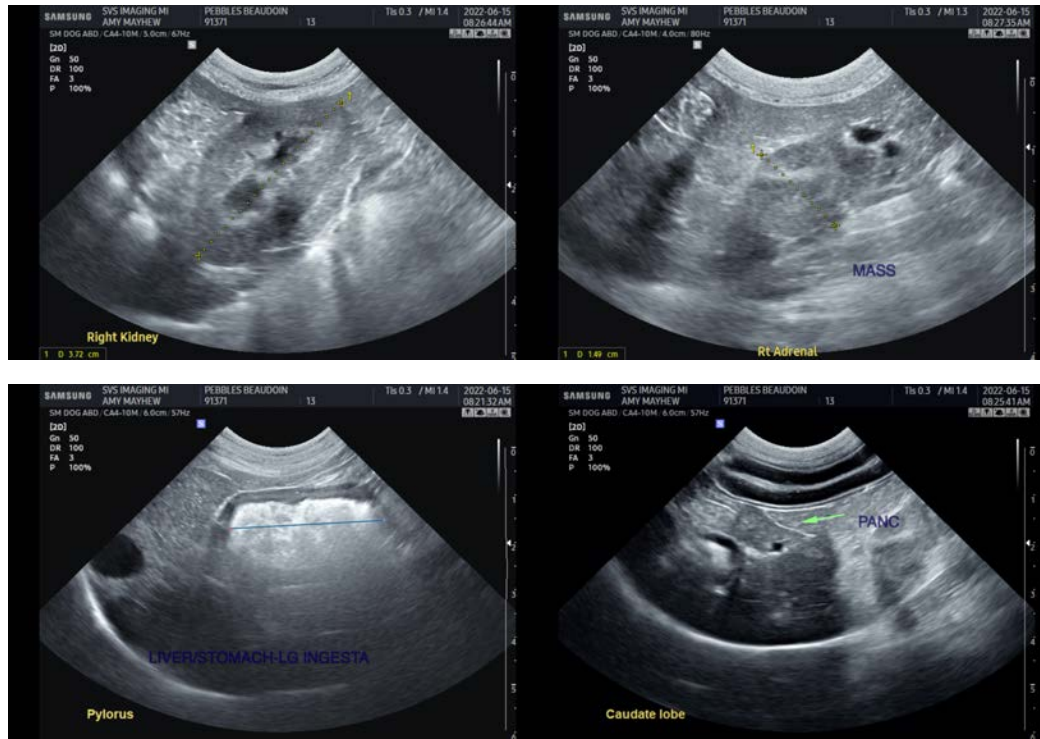
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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