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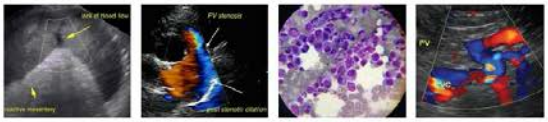

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Holly Baxter

SPECIES

Canine

BREED

Australian Shepherd

SEX

Spayed Female

AGE

10 Years

WEIGHT

67 Pounds

INTERPRETED BY

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

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Advanced PetCare of Nevada

REFERRING VET

Dr. Alexis Hazelwood

INVOICE

40229

DATE

8/5/22

PRESENTING CLINICAL SIGNS

Holly has had intermittent, recurring GI signs for the past 2-3 years. She has been prescribed metronidazole for diarrhea in the past, and the clinical signs have rapidly improved. She was most recently seen 5/17 for bilious vomiting. Labwork showed elevated Cpl – the vomiting resolved shortly after her visit. On 7/26, she was seen for hyporexia, lethargy, injected mucous membranes, and dehydration. No vomiting. She had some soft stool at the time and O noticed less stool production that normal. Labwork showed slightly low glucose, slightly low cholesterol, normal Cpl, baseline cortisol normal at 4.6, and hemoconcentration. She has chronically slightly decreased platelets with large platelets present (suspected to be 'normal' for P). She is currently on Proviable and Levothyroxine. She will not eat Fortiflora. Since last week, her appetite has gone back to normal, though her stool production still seems decreased to O and O feels as if her abdomen looks more distended. Lethargy has improved. She was sent home last week with Purina EN Low Fat. O now has her back on her normal diet of Purina Pro Chicken. Still no vomiting/diarrhea at this time. Holly was diagnosed with hypothyroidism 09/2018. /Reason for Ultrasound: Recurring GI signs – becoming more frequent/worsening

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 small line of hyperechoic shadowing debris in the dependent portion of the urinary bladder, most consistent with small sandy debris/calculi.

The left kidney has a normal shape and size (6.31 cm) with pinpoint non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.3 cm) with pinpoint non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.49 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 1.64 cm at the cranial pole, 0.54 cm at the caudal pole, and 3.5 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 somewhat abnormal in appearance in that the cranial pole is hyperechoic and large, most consistent with a nodule, measuring 1.5 cm x 1.48 cm. No obvious vascular invasion is observed.

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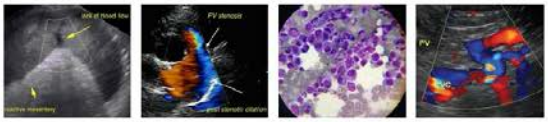

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Spleen

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 an ill-defined hypoechoic nodule visualized within the parenchyma at 0.53 cm.

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 gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele.

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. There is an area of what appears to be tissue density associated with the gastric wall measuring approximately 0.9 cm x 2.9 cm. There is minimal color flow in this region. Possible differentials could include a focal atypical rugal fold, intraluminal gastric material, or mucosal mass effect/polyp.

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. Duodenum wall measured 0.56 cm. Jejunum wall measured 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 right limb of the pancreas appears somewhat mottled and prominent. In the left limb, there is a hypoechoic region measuring 0.80 cm, and a less well defined hypoechoic region measuring 0.74 cm, possibly consistent with a pancreaetic cyst +/- a nodule.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There are occasional prominent lymph nodes visualized in the cranial abdomen. There is a 0.53 cm mesenteric node visualized. The omentum is generally of normal echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

There is an anechoic rounded structure visualized near the left kidney measuring 1.6 cm x 0.9 cm. Findings are most consistent with an omental cyst, but continued monitoring is warranted.

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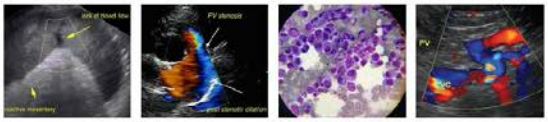

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PRIMARY FINDINGS

- Ill-defined hypoechoic splenic nodule visualized within the splenic parenchyma – There is a non-cavitated, hypoechoic splenic nodule visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Hypoechoic nodule/cyst visualized within the left limb of the pancreas as well as a 2nd ill-defined hypoechoc lesion – These lesions could be consistent with nodules or cysts. Consider a fine needle aspirate.
- Large gallbladder sludge – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Irregularity associated with gastric mucosa – This irregularity does not appear to involve the deeper layers of the stomach and could represent a benign or neoplastic lesion (artifact, polyp, ingesta, etc.).
- Hyperechoic nodule in the cranial pole of the right adrenal gland – Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

SECONDARY FINDINGS

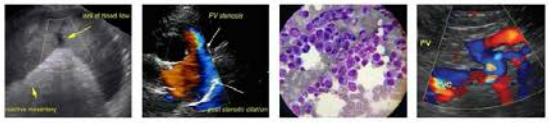
- Sandy mineralized debris in the dependent portion of the urinary bladder – recommend urinalysis and culture.
- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Anechoic cystic structure near the left kidney – suspect omental cyst. Recommend continued monitoring.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are al ot of lesions present on today's exam. In these situations, it can be difficult to determine which lesions are likely causing the symptoms described. There is an ill-defined hypoechoic nodule visualized within the spleen as well as two hypoechoic lesions within the pancreas. If possible, consider a fine needle aspirate of these lesions and close continued monitoring with ultrasound, as an underlying neoplastic process cannot be excluded.

A low blood sugar is reported in the history. If the blood sugar is documented at <60, consider running an insulin to glucose ratio, looking for evidence of an insulinoma.

There is a large amount of debris visualized in the gallbladder, and some of this is adherent to the gallbladder wall. Recommend continud monitoring of the gallbladder. If liver enzyme elevations



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are present, consider Ursodiol therapy with close continued monitoring for progression of this lesion.

There is the appearance of an irregularity of the superficial layer of the gastric wall. This area does not color flow well, so this could represented a polyp, a tumor, or even an atypical rugal fold/ingesta. Options moving forward would include endoscopic evaluation of the gastric wall, continued monitoring, and reevaluation with ultrasound, or even sometimes administration of contrast on an empty stomach can outline the mucosa for irregularities.

There is a hyperechoic nodule visualized on the right adrenal gland. This lesion could represent a benign or neoplastic lesion and could be secreting hormone or be non-active. Options moving forward include:

- 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.

If further evaluation of many of these lesions is desired, you could consider a contrast CT scan of the abdomen to obtain better detail and more information. If that is not possible, I would consider focusing on the lesions that may be associated with the GI signs, including the gallbladder, stomach and possibly the pancreas. Aspirates and scoping could be considered.

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

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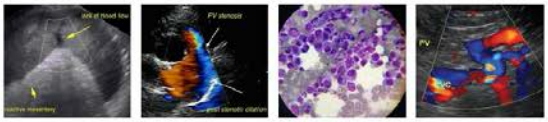

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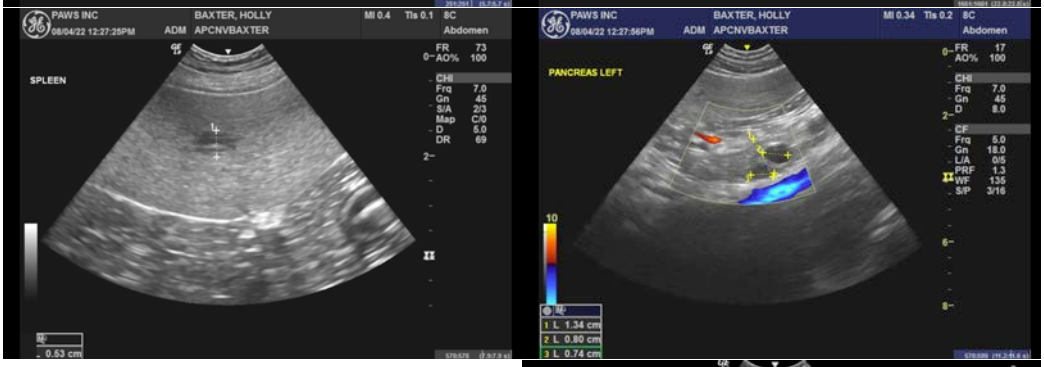

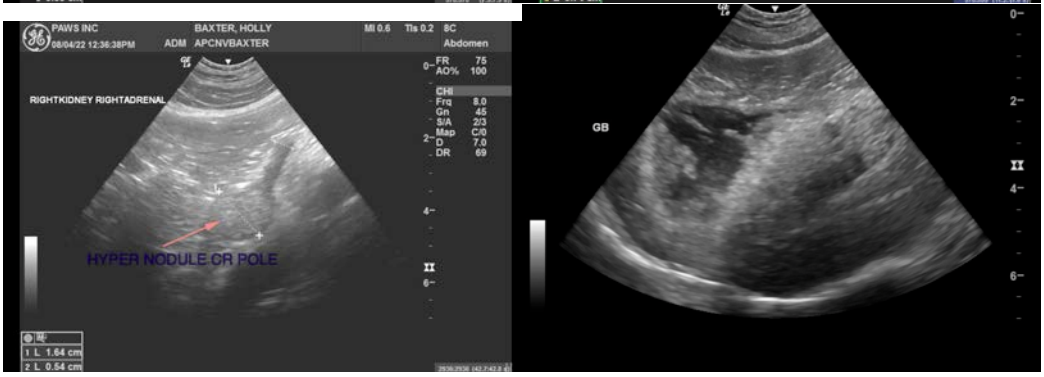

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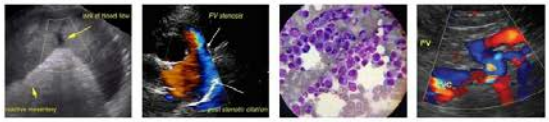

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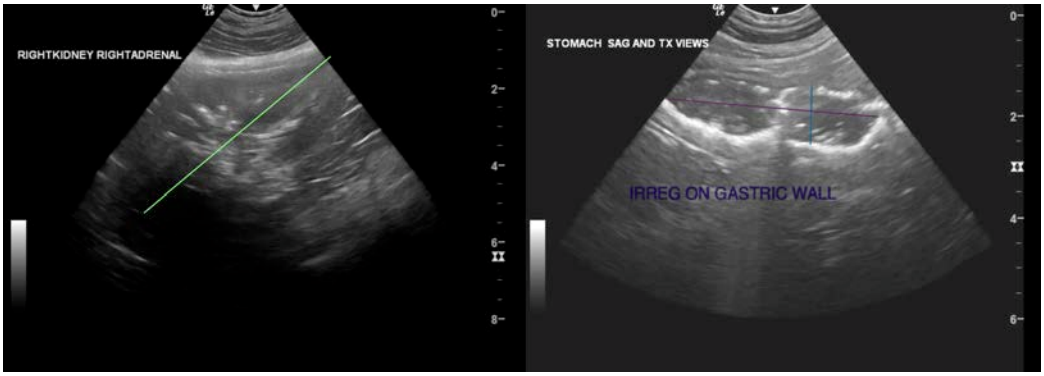

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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