

**PATIENT PRESENTING CLINICAL SIGNS**

Maeby Harrison History: GI/Abdominal Palpation: Mild hepatomegaly, but crisp edge Musculoskeletal: Mod reduced ROM both hips w/ pain Weight Loss Hepatomegaly Lipomas

**SPECIES**

Canine

**BREED**

Beagle X

**SEX**

Female Spayed

**AGE**

12 years

**WEIGHT**

15.3 kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Reschny

**HOSPITAL NAME**

Beattie PH Burlington

**REFERRING VET**

Wittenrich

**INVOICE**

13604

**DATE**

7.7.23

**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 (6.02 cm). 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. Numerous, small cortical cysts are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.20 cm). 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. Numerous, small cortical cysts are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size (0.65 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 (0.84 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.

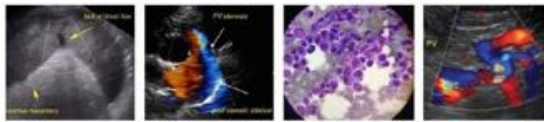
**Liver**

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is severely heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous subtle changes in echotexture, some of which create ill-defined nodules. One such nodule visualized measures 1.24 cm in diameter and is hypoechoic. There is a more-defined, somewhat cystic, hyperechoic mass lesion visualized in the left cranial aspect of the liver (4.84 x 4.61 cm).

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.

**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.



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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 (0.44 cm) and the jejunum measured as normal (0.30 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. 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**

- Decreased corticomedullary junction in both kidneys with small cortical cysts – 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.
- Large, severely heterogenous liver with ill-defined hypoechoic nodules and a more well-defined cystic, hyperechoic mass effect - These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia. The hyperechoic mass lesion could represent a primary hepatic mass lesion (adenoma, adenocarcinoma, etc.) or even a mildly cystic cystadenoma.
- Moderate gallbladder debris with adhered gall bladder sludge to the gallbladder wall - 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**

The liver appears severely heterogenous and irregular, with small, cystic areas and ill-defined nodules on today's exam. Most of these have the appearance trending towards a benign process, although there is a larger hyperechoic, slightly cystic mass lesion visualized in the cranial left aspect of the liver. This has the appearance most consistent with a primary hepatic mass lesion (such as a adenoma, carcinoma, possibly cystadenoma) but a more aggressive mass lesion cannot be ruled out. The location of this lesion makes non-invasive sampling likely not possible. Options moving forward would be continued monitoring with ultrasound, or ideally, a contrast CT scan to better evaluate the location and size, etc., of these liver irregularities, and decide if surgical intervention is warranted.



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I would also strongly consider a liver function test to ensure that there is no impact on how well the liver is working, prior to considering any anesthetic procedures.

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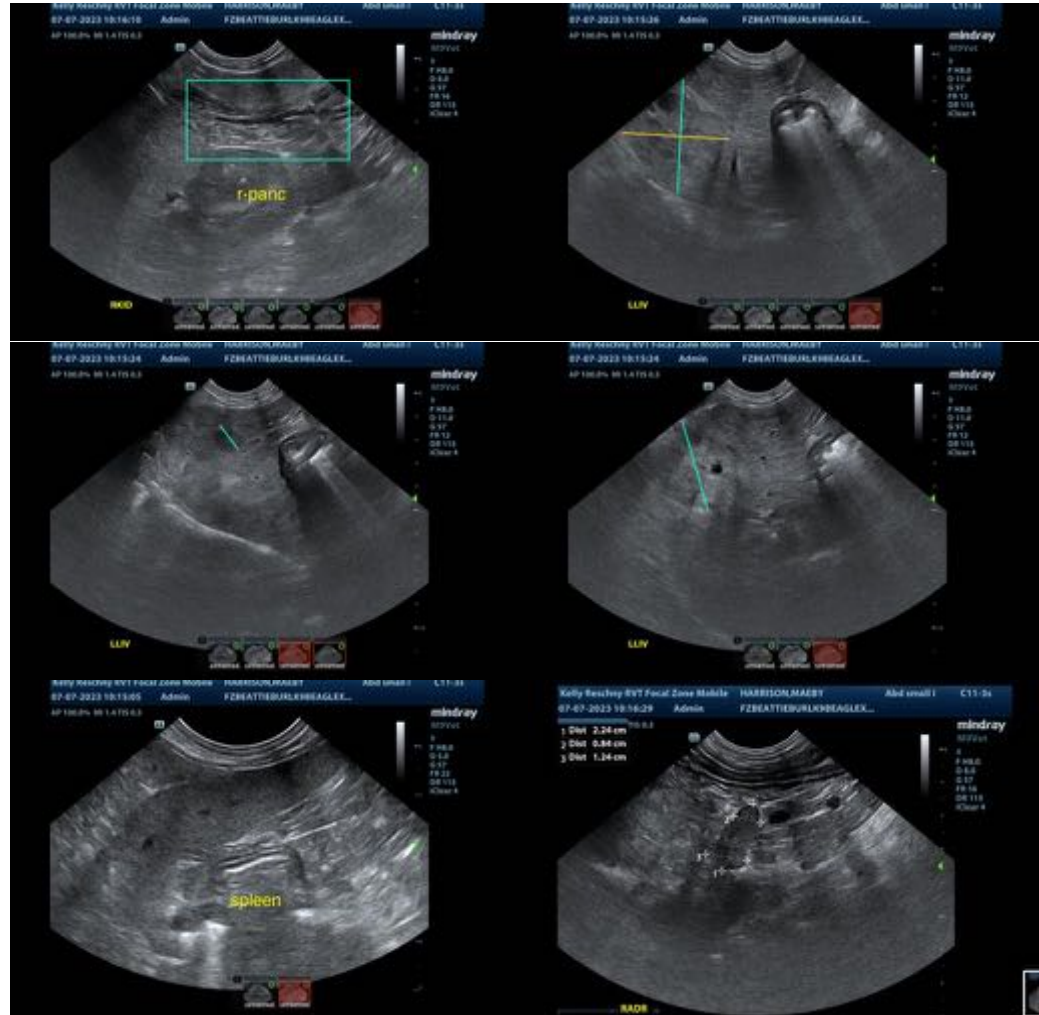
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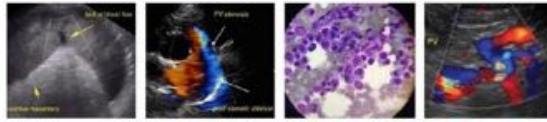
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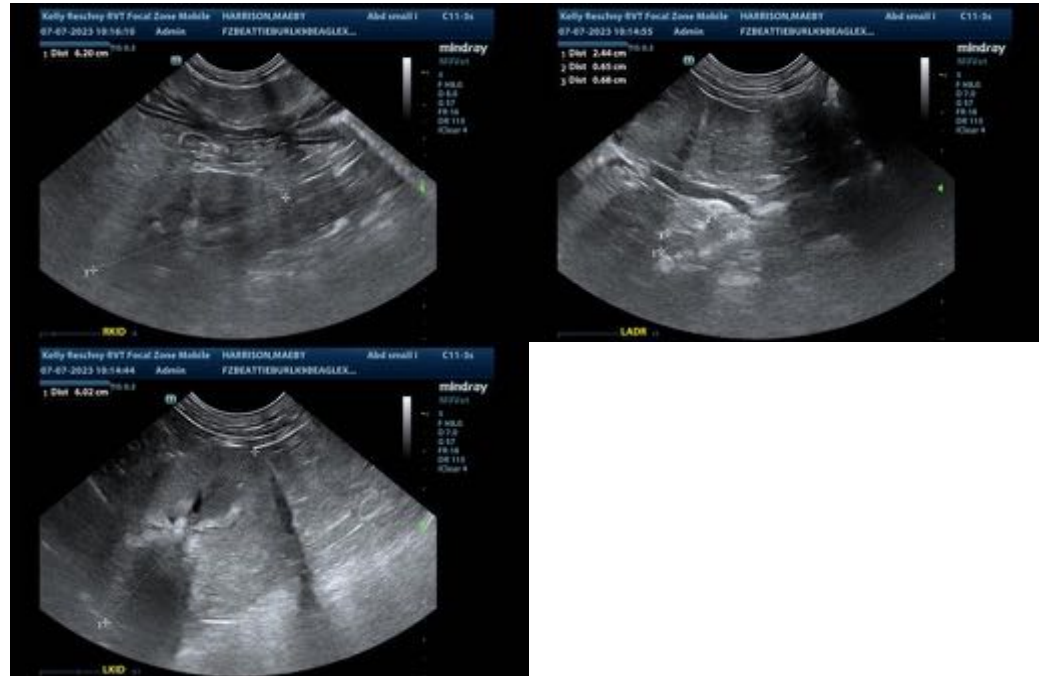
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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