


**PATIENT PRESENTING CLINICAL SIGNS**

Banana Hann History: rads showed possible left adrenal gland carcinoma  
 Abnormal PE/Chem/CBC/UA Results: CBC/Biochem- 07/29/2021 PLT-high, PCT-high, ALT-high, ALKP-high TT4-low UA-WNL

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**
***Urinary System***

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is distended. A scant amount of suspended echogenic debris is observed within the lumen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

**BREED**

Dachshund

**SEX**

Male, neutered

The prostate is normal in size (1.06 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

**AGE**

14 Yrs.

The left kidney is normal size (5.26 cm in length) with a normal shape and smooth peripheral contours. The cortex is variably thickened and hyperechoic and several small cortical cysts are present. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

10.3 kg.

The right kidney is normal size (6.39 cm in length) with a normal shape and smooth peripheral contours. The cortex is variably thickened and hyperechoic and several small cortical cysts are present. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

Andrea Nicastro, DVM,  
 Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

***Adrenal Glands***

The left adrenal gland is enlarged (2.32 x 1.99 cm) with an irregular shape/mass effect. The parenchyma is heterogeneous with foci of mineralization and loss of glandular detail. There is no obvious evidence of vascular invasion. Surrounding mesentery is mildly hyperechoic.

The right adrenal gland is mildly enlarged (1.35 cm at cranial pole) (0.91 cm at caudal pole) (1.82 cm in length) with a slightly irregular shape. The parenchyma is heterogeneous with loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

**IMAGING PERFORMED BY**

Kelly Reshny, RVT

***Spleen***

The spleen is normal in size (1.18 cm in width at the level of the hilus) with a normal capsular contour. The parenchyma is subtly mottled in appearance. Several hyperechoic nodules, some of which are pinpoint and some of which are larger and ill-defined are observed throughout the organ. Splenic vasculature is normal.

**HOSPITAL NAME**

 Beattie Pet Hospital  
 Stoney Creek

***Liver***

The liver is enlarged with swollen, slightly irregular peripheral contours. The parenchyma is hyperechoic relative to the spleen and diffusely heterogeneous/mottled in appearance. A 5.12 x 4.05 hypoechoic swelling/mass is observed at the caudal aspect, mid to right liver. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is normal in thickness. A few polypoid like lesions are arising from the luminal surface. A small to moderate amount of aggregated echogenic mostly gravity-dependent debris in a reticulated pattern, is observed within the lumen. The cystic and common bile ducts are not seen.

**REFERRING VET**

Dr. Salib

**INVOICE**

12056

**DATE**

9/9/21



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***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is minimally fluid distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

***Pancreas***

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

***Free Abdomen***

There is no evidence of free fluid. The abdominal lymph nodes are normal/not visible.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- Bilateral adrenomegaly with left adrenal mass effect. Differentials include left adrenal tumor with right nodular hyperplasia, bilateral tumors, bilateral nodular hyperplasia, other. Left retroperitonitis is present, likely secondary to adrenal pathology.
- The hepatic swelling/mass effect could be consistent with benign pathology (i.e., regenerative nodular hyperplasia). However, a neoplastic process (i.e., adenoma, adenocarcinoma) is also possible. The diffuse hepatic parenchymal changes are non-specific and could be secondary to age-related pathology, inflammatory disease, metastasis, other.

**Secondary Findings:**

- Gallbladder debris, non-mucocele.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with dystrophic mineralization and cortical cysts.
- The splenic parenchyma changes are most consistent with a benign process such as lymphoid hyperplasia, extramedullary hematopoiesis or splenitis with a low possibility of infiltrative neoplasia (i.e., lymphoma, mast cell neoplasia). The splenic nodules trend toward the benign (i.e., myelolipomas) with a lower possibility of an early neoplastic process.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**



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- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.
- If an aggressive approach is desired, consider further testing (i.e., low-dose dexamethasone suppression test, urine/blood catecholamine levels) for a functional left adrenal tumor. Also consider baseline blood pressure measurement.
- An abdominal CT scan would also be useful to further evaluate the hepatic swelling and left adrenal invasiveness. Alternatively, a repeat abdominal ultrasound can be considered in 3-4 weeks to assess for progression.





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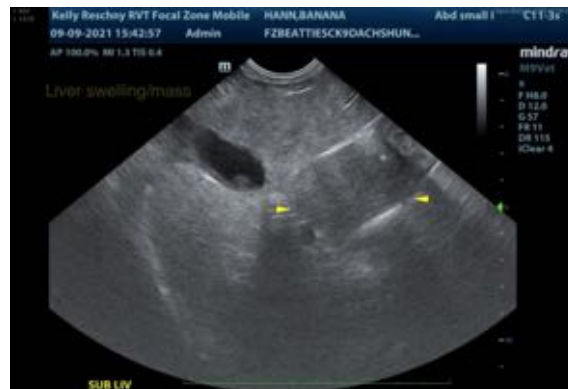
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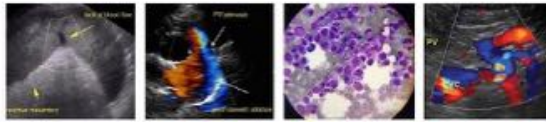
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

Andrea.nicastro@sonopath.com



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