



**PATIENT PRESENTING CLINICAL SIGNS**

Jett Hunt History: Still has severely elevated liver values. ALP is off the scale. ALT 55. Has recently had some vomiting and diarrhea last weekend. Otherwise eating and drinking well. Currently on trilostane, Denamarin, Ursodiol and Simparica. History of Cushing's Disease.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

Chihuahua

**Urinary System**

The urinary bladder is mildly to moderately distended. The wall is appropriate thickness for the level of repletion. The mucosal surface is slightly irregular in the region of the apex. One tiny cystic calculus is observed. The luminal contents are otherwise anechoic. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

**SEX**

Neutered Male

The prostate is normal in size (0.84 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

**AGE**

08/16/2011

The left kidney is normal in size (5.66 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and isoechoic relative to the spleen, with a few pinpoint hyperechoic foci. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. A few nonobstructive nephroliths are seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

19 lbs

The right kidney is normal in size (5.99 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and isoechoic relative to the spleen, with a few pinpoint hyperechoic foci. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. A few nonobstructive nephroliths are seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

Andrea Nicastro,  
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Medicine)

**Adrenal Glands**

The left adrenal gland is enlarged (1.08 cm at cranial pole) (1.10 cm at caudal pole) with an irregular shape. The parenchyma is mildly heterogenous with loss of glandular detail. No focal lesions are observed. The phrenicoabdominal vein and surrounding vasculature are normal.

**IMAGING PERFORMED BY**

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The right adrenal gland is enlarged (1.36 cm at cranial pole) (0.88 cm at caudal pole) with an irregular shape. The parenchyma is mildly heterogenous with loss of glandular detail. No focal lesions are observed. The phrenicoabdominal vein and surrounding vasculature are normal.

**HOSPITAL NAME**

Flowertown AH

**Spleen**

The spleen is normal in size (0.99 cm in width at the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. One to two small hyperechoic nodules are seen (the largest measuring 0.51 cm in diameter). Splenic vasculature is normal.

**REFERRING VET**

Dr. McLaughlin

**Liver**

The liver is enlarged with swollen/irregular peripheral contours. The parenchyma is isoechoic relative to the spleen. An approximately 9.00 cm slightly hyperechoic-to-heterogenous, mildly-cavitated mass is observed on the right side. The lesion causes capsular expansion. In the remainder of the liver, the parenchyma is subtly heterogenous. Numerous intrahepatic biliary stones are observed throughout the organ. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The portal vein to caudal vena cava ratio is approximately 1: 1.

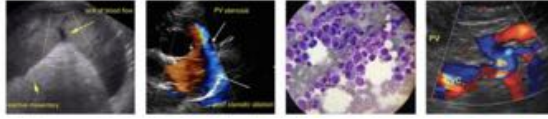
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The gall bladder is distended. The wall is thickened (up to 0.34 cm), hyperechoic and irregular. A moderate amount of aggregated, echogenic-to-mineralized, partially dependent and/or adhered sludge is observed within the lumen. A moderate amount of gravity-dependent mineralized sand is also seen. The cystic and common bile ducts are normal/not seen.

**DATE**

4.3.2022



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**Gastrointestinal**

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not 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 is normal in thickness with a normal layering pattern. There is evidence of mucosal speckling in some segments. Discreet masses are not identified. The ileocecolic junction and colonic wall are normal. The colonic lumen is empty. There is no evidence of an obstructive pattern.

**Pancreas**

The left 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**

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

**Other**

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

- Right hepatic mass (not previously present). Neoplasia (i.e., adenoma, adenocarcinoma, hemangiosarcoma, round cell tumor) is considered likely with a lower possibility of a benign process (i.e., excessive regenerative nodular hyperplasia). The remaining hepatic parenchymal changes are more consistent with a benign process (i.e., regenerative nodular hyperplasia, inflammatory disease, hepatotoxicosis (i.e., copper), vacuolar hepatopathy, other hepatopathy. Intrahepatic biliary stones – incidental.
- The gall bladder changes are most consistent with a developing mucocele with mineralized sand.

**Secondary Findings**

- Bilateral chronic age-related renal changes with nonobstructive nephrocalcinosis.
- The bilateral adrenomegaly is most consistent with previously-diagnosed hyperadrenocorticism.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- The small intestinal mucosal speckling is suggestive of an inflammatory process (i.e., enteritis). Correlation with the patient's clinical history is recommended.
- Tiny cystic calculus

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.



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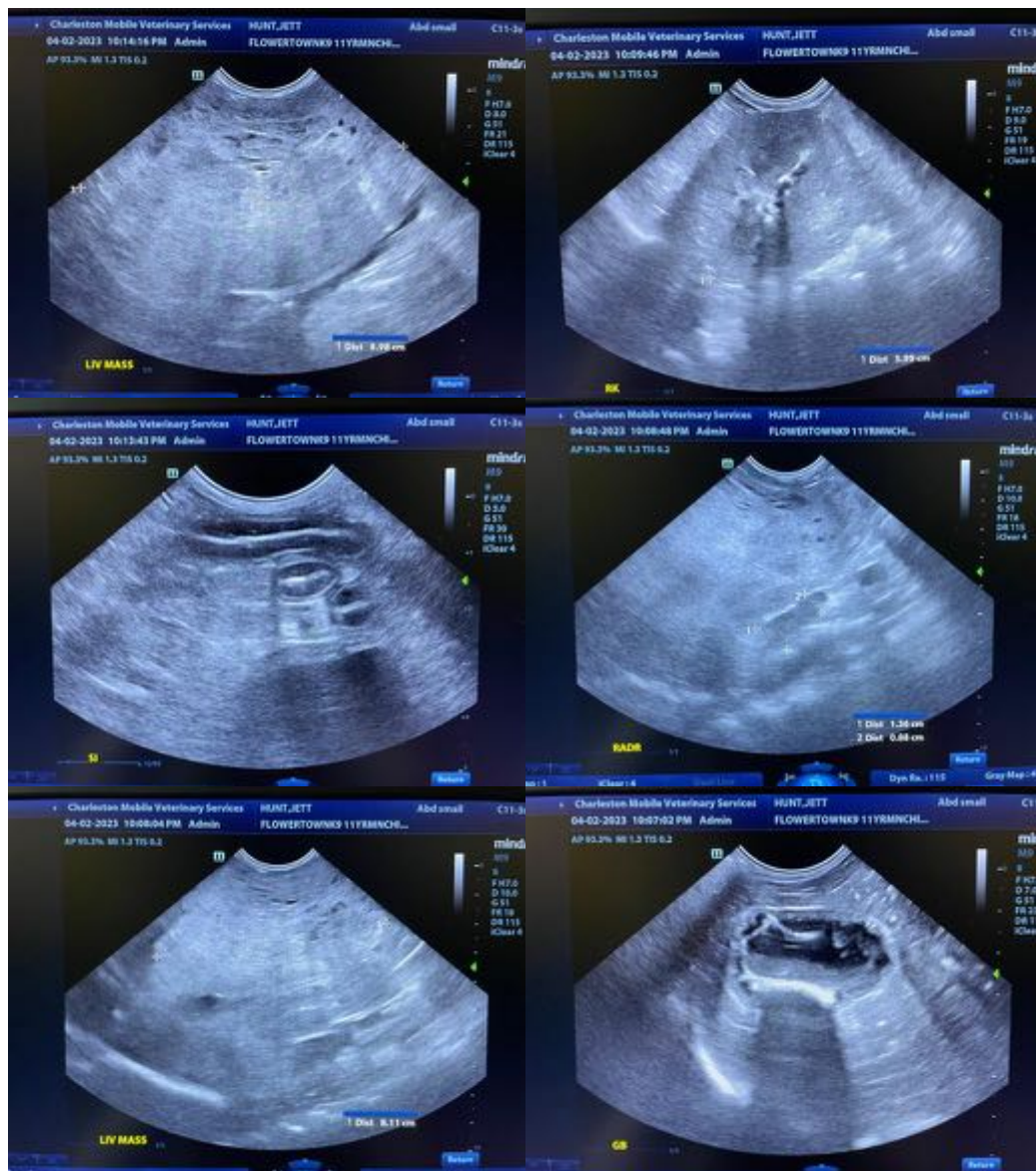
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- Consider a fine-needle aspirate of the hepatic mass (if clotting status is appropriate). A 25-gauge needle should be used. It should be noted that it can sometimes be difficult to distinguish hyperplasia, adenoma, and adenocarcinomas cytologically. If the cytology results are inconclusive or if aspiration is not performed, consider consultation with a board-certified surgeon to discuss hepatic mass removal or debulking. An abdominal CT scan would be useful in in presurgical planning. If surgery is pursued, the gall bladder should be assessed at the time of surgery, +/- a cholecystectomy. In the meantime, continuation of Ursodiol, Denamarin and trilostane is recommended.





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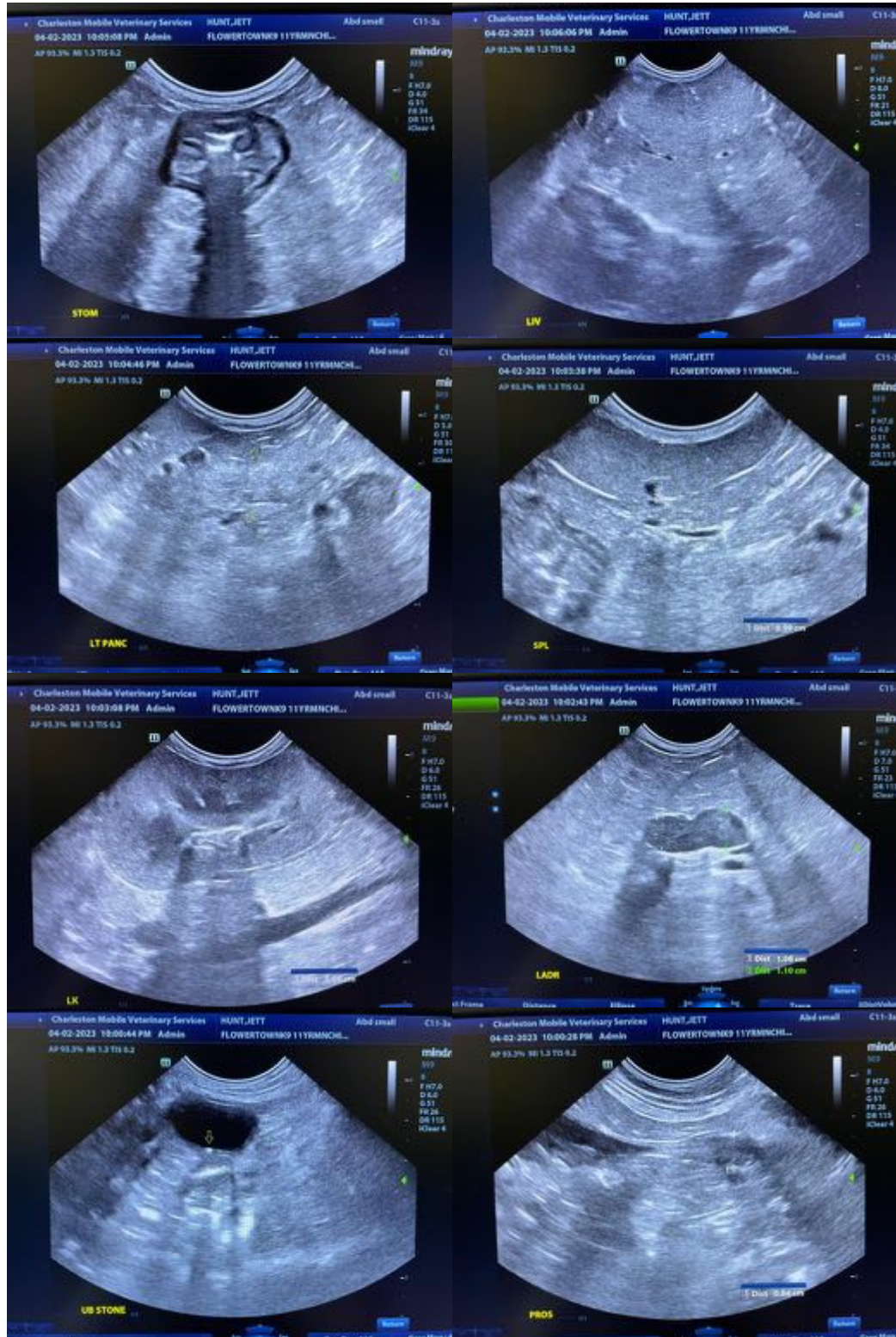
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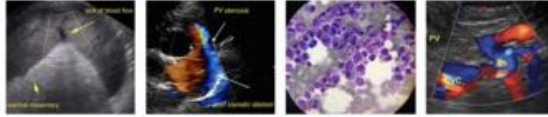
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not



**PATIENT**

visible in the image/video clips provided.

Jett Hunt

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.

**SPECIES**

Canine

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