



## PATIENT

Captain Carvalho

## SPECIES

Canine

## BREED

Bichon

## SEX

Neutered male

## AGE

9 years

## WEIGHT

20 lbs

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP, Cert. IVUSS,  
CEO of SonoPath.com

## IMAGING PERFORMED BY

Kelly Vazquez, CVT

## HOSPITAL NAME

Animal General on  
Hudson

## REFERRING VET

Dr. Freedman

## INVOICE

32675

## DATE

8/31/22

## PRESENTING CLINICAL SIGNS

History: Had episode of vomiting and diarrhea 3 weeks ago, elevated liver enzymes, abnormal CPL. Responded to treatment, now had another episode of vomiting.  
Abnormal PE/Chem/CBC/UA Results: ALT > 1000, Alk. Phos. 698.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.74 cm with calculus measuring 0.91 cm. The right kidney measured 5.32 cm.

### Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.54 x 0.66 cm at the cranial pole and 0.57 cm at the caudal pole. The left adrenal gland measured 1.94 x 0.53 cm at the caudal pole and 0.38 cm at the cranial pole.

### Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

### Liver

The **liver** revealed a mixed, hyperechoic expansive, right and left medial mass that measured 6.5 x 3.4 cm. The remainder of the liver presented a minor amount of remodeling. Other, hyperechoic, nodular changes were noted in the liver. A separate mass measuring 3.16 cm with mixed, hyperechoic changes and hypoechoic nodule was noted. The gallbladder revealed minor, excessive debris noted.



**PATIENT**

**Gastrointestinal**

Captain Carvalho

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The **pancreas** is heterogenous with mixed echogenic changes. This is suggestive for history of inflammation and possible low-grade inflammation.

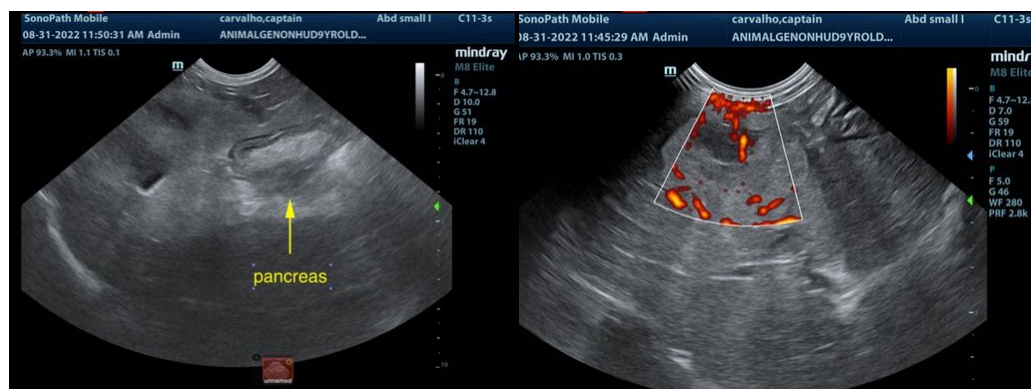
**ULTRASONOGRAPHIC FINDINGS**

Hepatic mass and nodules. Carcinoma is suspected, pronounced nodular hyperplasia is possible, yet less likely.

History of pancreatic inflammation or low grade inflammation is suspected.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The hepatic masses appear to be fairly vascular, which would suggest a neoplastic process such as carcinoma. Granulomatous disease is less likely. The nodules and masses are multi-focal and non-resectable. Pronounced caudate process is also noted with hyperechoic nodules. Guarded prognosis depending on cytology of the liver. Subxiphoid palpation is recommended to assess discomfort associated with the pancreas, which would suggest pancreatitis given the sonographic appearance.





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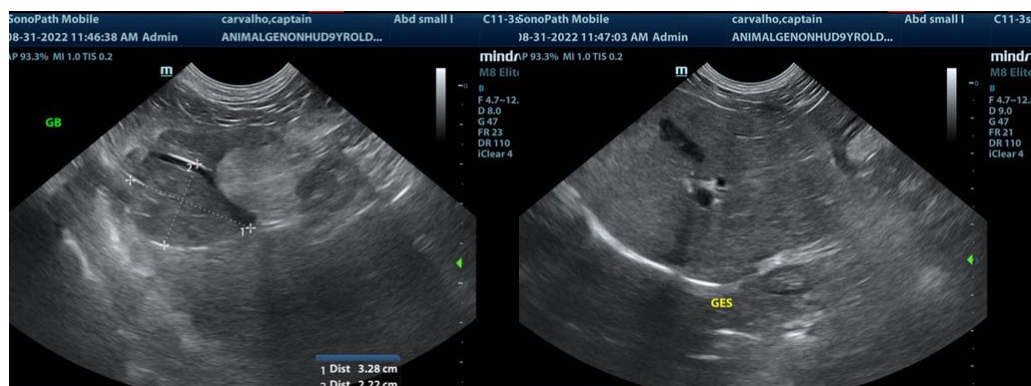
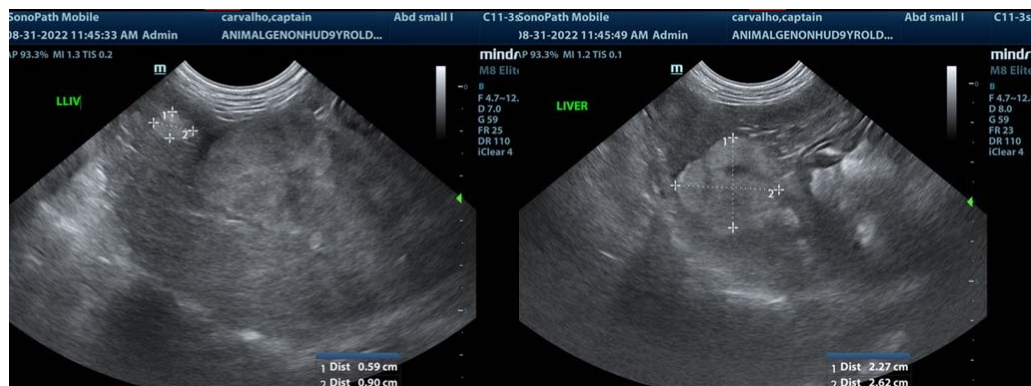
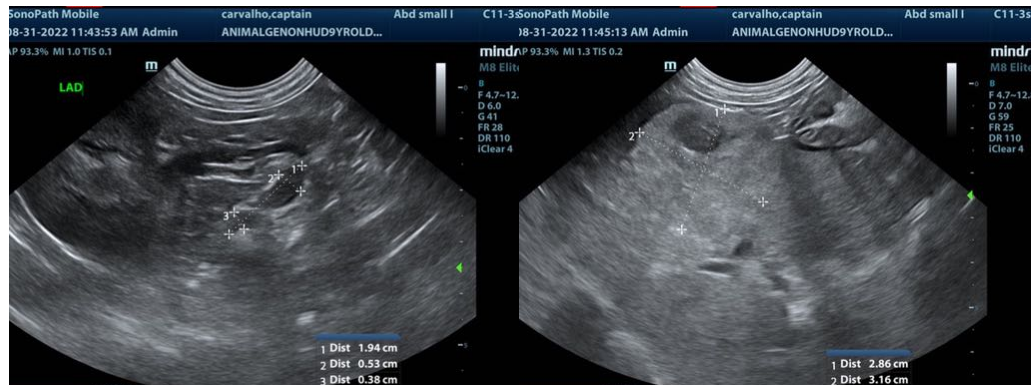
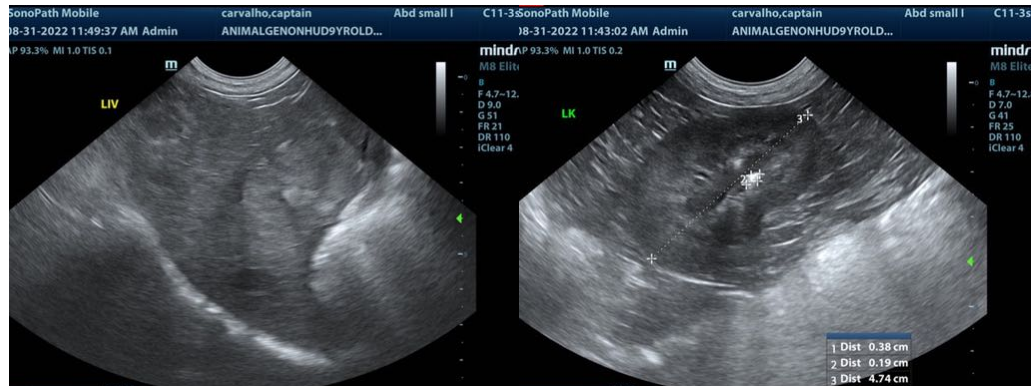
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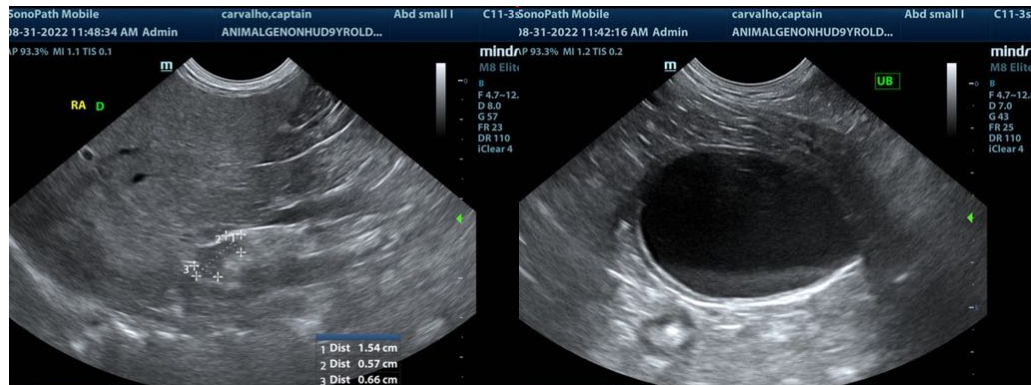
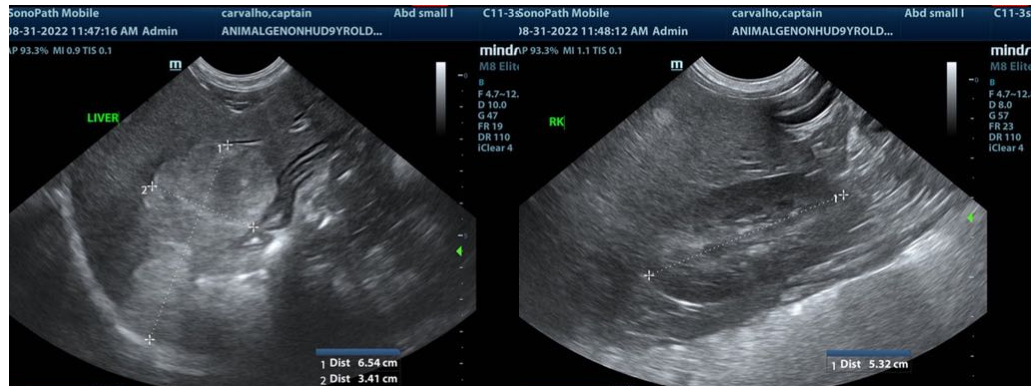
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

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