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**DATE**

8/19/22

**PATIENT**

Naty Boots Strubel

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

2/14/11

**WEIGHT**

10.1 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Andi Parkinson RDMS

**HOSPITAL NAME**

Animal Emergency  
Hospital

**REFERRING VET**

Dr. Ruby

**INVOICE**

40627

**PRESENTING CLINICAL SIGNS**

Not eating and vomiting since Tuesday. She has a Hx of hairball. Owners were trying to give her Laxatone. No toys missing and no known toxins.

Current Medications: Ampicillin, Protonix, Buprenorphine, Cerenia.

Radiographs: Mineral densities in the cranial abdomen, possibly associated with the vasculature of the liver.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**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 were 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 4.0 cm. Slight mineralization noted. The right kidney measured 3.7 cm.

**Adrenal Glands**

The regions of the **adrenal glands** were unremarkable.

**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 were noted.

**Liver**

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. Lobar biliary mineralization noted up to 0.5 cm. The gallbladder was mildly dilated and presented some dependent debris. Common bile duct calculus noted, lodged at the duodenal papillae, measuring 0.40 cm. Focal dilation of the common bile duct noted just prior to the calculus. Common bile duct measured 0.7 cm at that point. The cystic duct was dilated.

**Gastrointestinal**

The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall with slight disruption of the normal 1:3 muscularis/mucosal ratio. The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic disease. No concerning lymphadenopathy was visible. No evidence of obstruction was present. Chronic inflammatory bowel disease is likely with a low possibility of an early neoplastic event such as lymphoma. Full thickness tissue biopsies via open laparotomy, ideally guided by intraoperative ultrasound in order to obtain the most representative mural sample, would be necessary to rule out this possibility.

## Pancreas

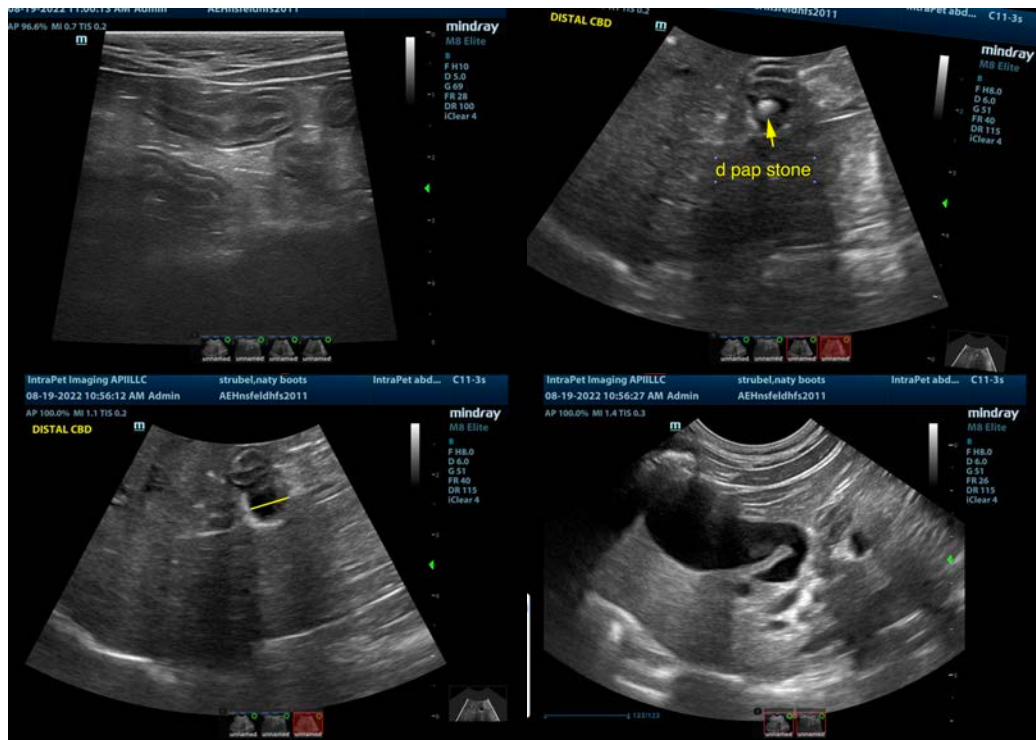
The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

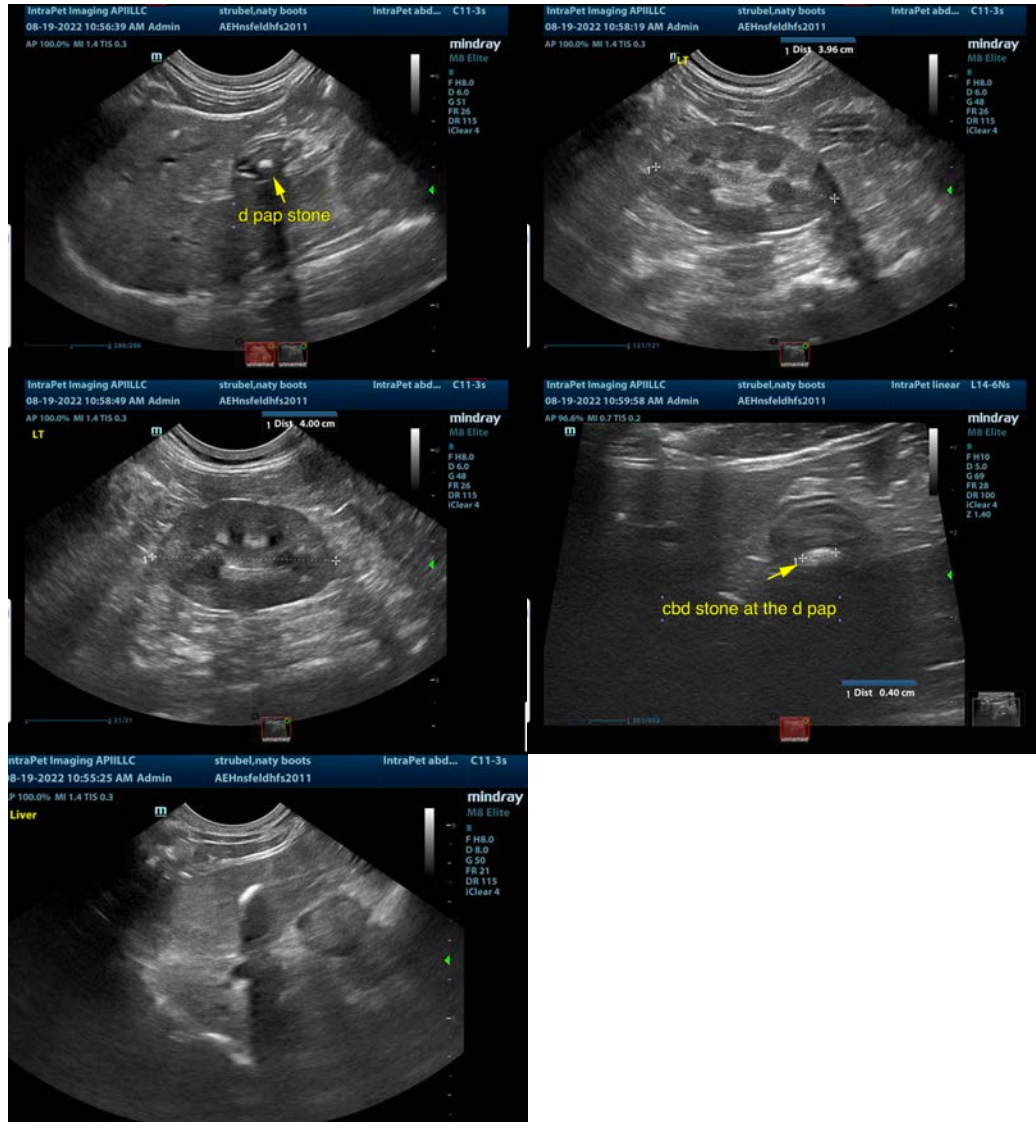
## ULTRASONOGRAPHIC FINDINGS

- Cholangitis liver pattern with biliary calculi and lodged common bile duct/duodenal papillae calculus, likely the cause of the clinical signs
- IBD GI pattern
- Age renal and pancreatic changes

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The clinical signs are likely owing to the calculus lodged in the duodenal papillae. It appears to be too large to pass. The duodenal papilla also appears hypertrophied. Recommend surgical intervention with liberation of the duodenal papilla. Inspection of the integrity of the duodenal papilla at surgery recommended, as bile duct deviation procedure may be necessary. Liberation of the common bile duct calculus, CBD lavage, liver biopsy and culture indicated, as well as GI biopsies, given the patient history of minor GI thickening.





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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