

**DATE PRESENTING CLINICAL SIGNS**

1/11/23 Presented 1/10/22 for progressive, severe vomiting and now anorexia. On PE 7- 10% dehydrated, kyphotic posture; QAR mentation.

**PATIENT**

Chevy Cook Current Medications: IVF, Cerenia, Buprenorphine 0.015 mg/kg IV q 8 h  
Lab Results: Mild hypokalemia, mild hypochloremia, mild hyponatremia  
Inflammatory leukogram w/ left shift

**SPECIES**

Canine Date of Previous IntraPet Ultrasound: No previous.  
Sedation: Not required to complete full diagnostic ultrasound.  
Stat Report: Not requested.  
Imaging Performed By:

**BREED**

Min Pin

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

The urinary bladder is subjectively overdistended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**SEX**

Neutered Male

**AGE**

4/8/12

The right kidney is normal in size (4.63 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**WEIGHT**

13.3 Pounds

The left kidney is normal in size (4.27 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

The right adrenal gland is normal in size (1.6 cm long x 0.54 cm at the cranial pole and 0.52 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Eastern AH

The left adrenal gland is normal in size (1.92 cm long x 0.32 cm at the cranial pole and 0.59 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Michelotti

**Spleen**

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**INVOICE**

44069

**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Multiple intrahepatic biliary mineral foci are noted.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic with some suspended echogenic and mineral debris, and evidence of cystoliths throughout the cystic and common bile duct. At the level of the duodenal papilla, there is an echogenic shadowing foci. However, differentiation between a biliary stone and the foreign body cannot be made.

### ***Gastrointestinal***

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. It is markedly fluid distended with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

Diffusely, the visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is largely empty with no evidence of obstruction, foreign material or infiltrative disease. Focally, primarily visible in the duodenum, there is marked plication with an echogenic linear structure running through the plicated lumen, most consistent with a linear foreign body.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity. There is some concern for intrapancreatic duct mineral as well.

### ***Free Abdomen***

There is a scant amount of anechoic free fluid and markedly enhanced hyperechoic mesenteric fat surrounding the plicated bowel and foreign body.

The cranial abdominal lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

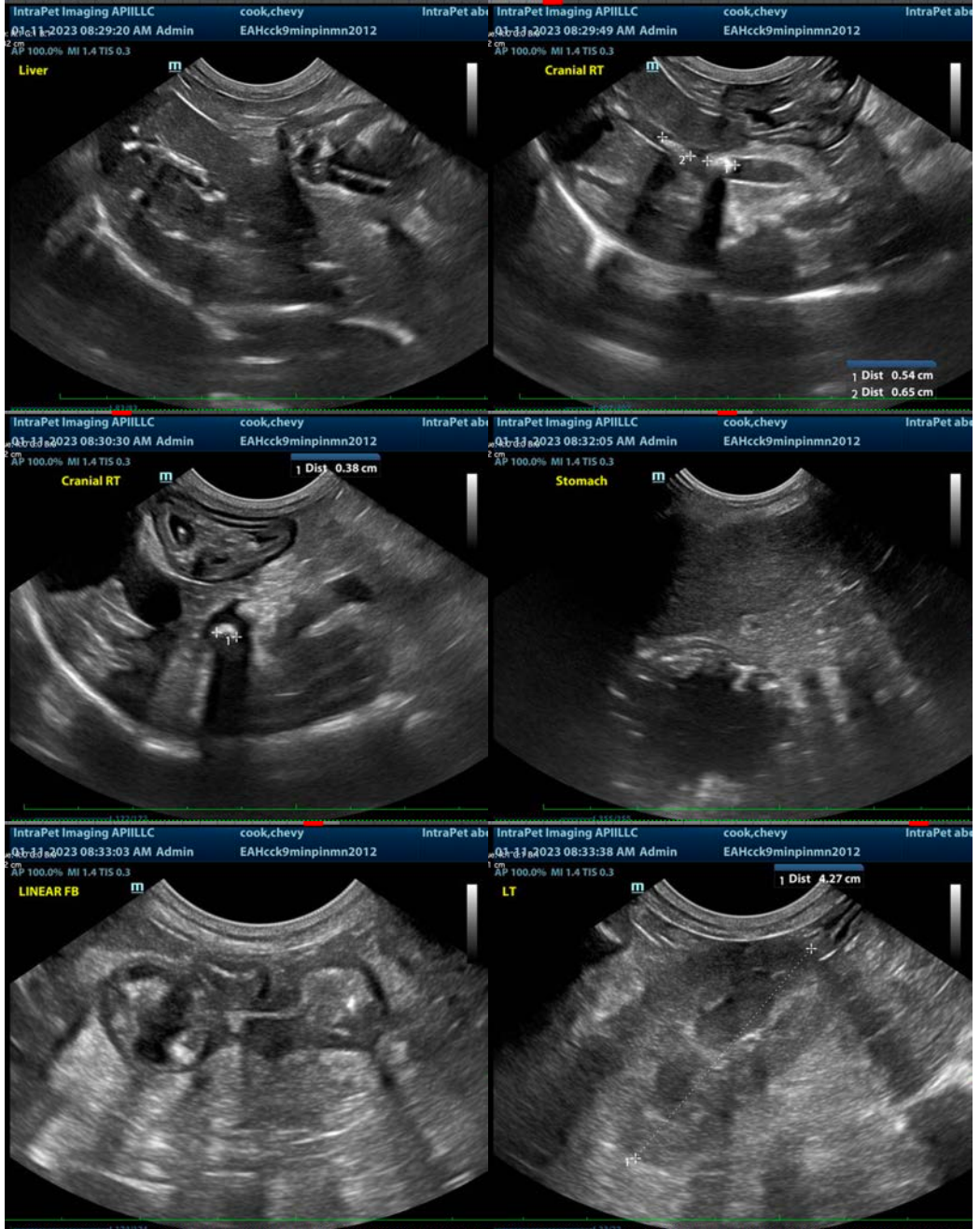
## **ULTRASONOGRAPHIC FINDINGS**

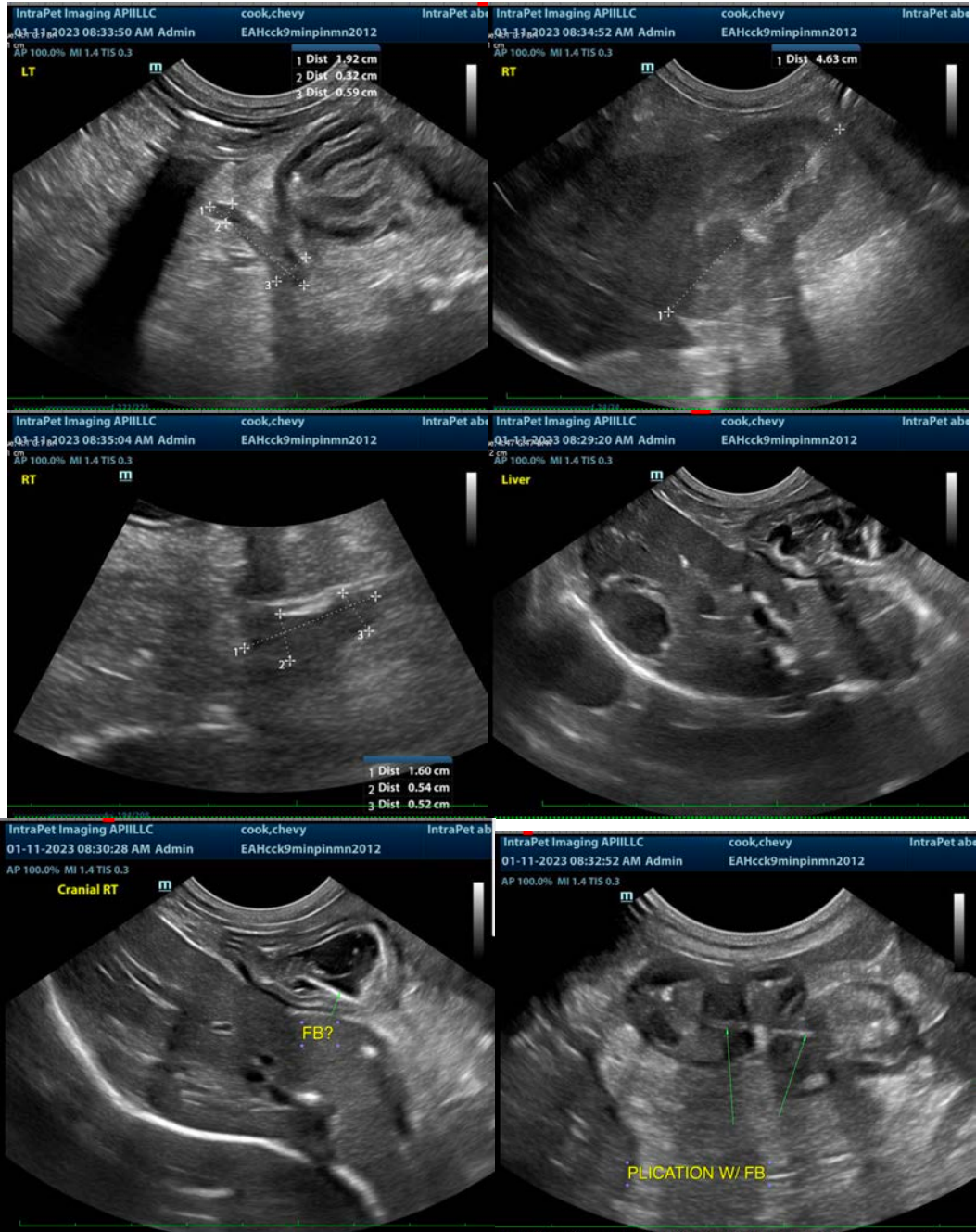
- Small bowel linear foreign body with evidence of surrounding peritonitis
- Cholelithiasis, including intrahepatic biliary stones, intraluminal gallbladder stones, as well as cystic and common bile duct stones with possible concurrent intrapancreatic duct stones – The degree of the mineral change is difficult to fully assess, given the marked changes, inflammation, etc. from the foreign body.
- **Reactive cranial abdominal lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given this patient's lack of reported liver enzyme changes, increased bilirubin, etc., the biliary mineral is likely primarily incidental, with the primary pathology in this abdomen and the cause of the inflammation and clinical signs being the linear foreign body.

Recommendations are an immediate exploratory laparotomy for foreign body removal, bowel assessment, etc. as soon as the patient is stable enough to undergo surgery. At the time of surgery, further evaluation of the biliary tree and pancreatic ducts, etc. is recommended to help alleviate suspected or visible obstruction. However, again, incidental, relatively benign, subclinical intrahepatic and biliary mineral can occur, and this patient's clinical picture is most likely owing primarily to the foreign body.





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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