**DATE**

10/6/22

**PRESENTING CLINICAL SIGNS**

Today O was carrying P down the steps and P squirmed and jumped out of hands. P landed splayed out. P got up and walked and fell and started to whine and cry and would not stop. P gets dry eye on the right eye. No other past medical history.

**PATIENT**

Pixel Davila

Current Medications: Methadone.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****BREED**

Chihuahua Mix

**Urinary System**

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

**SEX**

Neutered male

If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

**AGE**

10/12/08

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measured 4.64 cm and the right kidney measured 4.81 cm.

**WEIGHT**

17.2 lbs

**Adrenal Glands**

Left adrenal gland is normal in size (1.81 cm long, 0.74 cm at cranial pole and 0.73 cm at the caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM

Right adrenal gland is normal in size (1.9 cm long, 0.76 cm at cranial pole and 0.69 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**Animal Emergency  
Hospital**Spleen**

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. Multifocal mineral foci are noted. Splenic vasculature appears normal.

**REFERRING VET**

Dr. Roper

**Liver**

Liver contains at least two masses. The larger of which measures 8-9 + cm in diameter in the caudal liver and has a heterogenous, primarily hyperechoic, partially cavitated appearance. A second, similar appearing, but more homogenous mass originates in the mid liver near the gallbladder.

**INVOICE**

39951

Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

### ***Gastrointestinal***

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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 in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is a scant amount of anechoic free fluid in the cranial abdomen primarily around the spleen.

There is no apparent lymphadenopathy noted in these images.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- **Multiple, heterogenous cavitated liver masses** most concerning for infiltrative neoplasia. A marked benign change, which is seen with nodular hyperplasia or chronic inflammatory disease cannot be definitively ruled out, but is considered less likely.
- **Emerging mucocele** – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.
- **Scant amount of anechoic fluid** with the possibility of a hemoabdomen present given the patient's reported concurrent anemia.

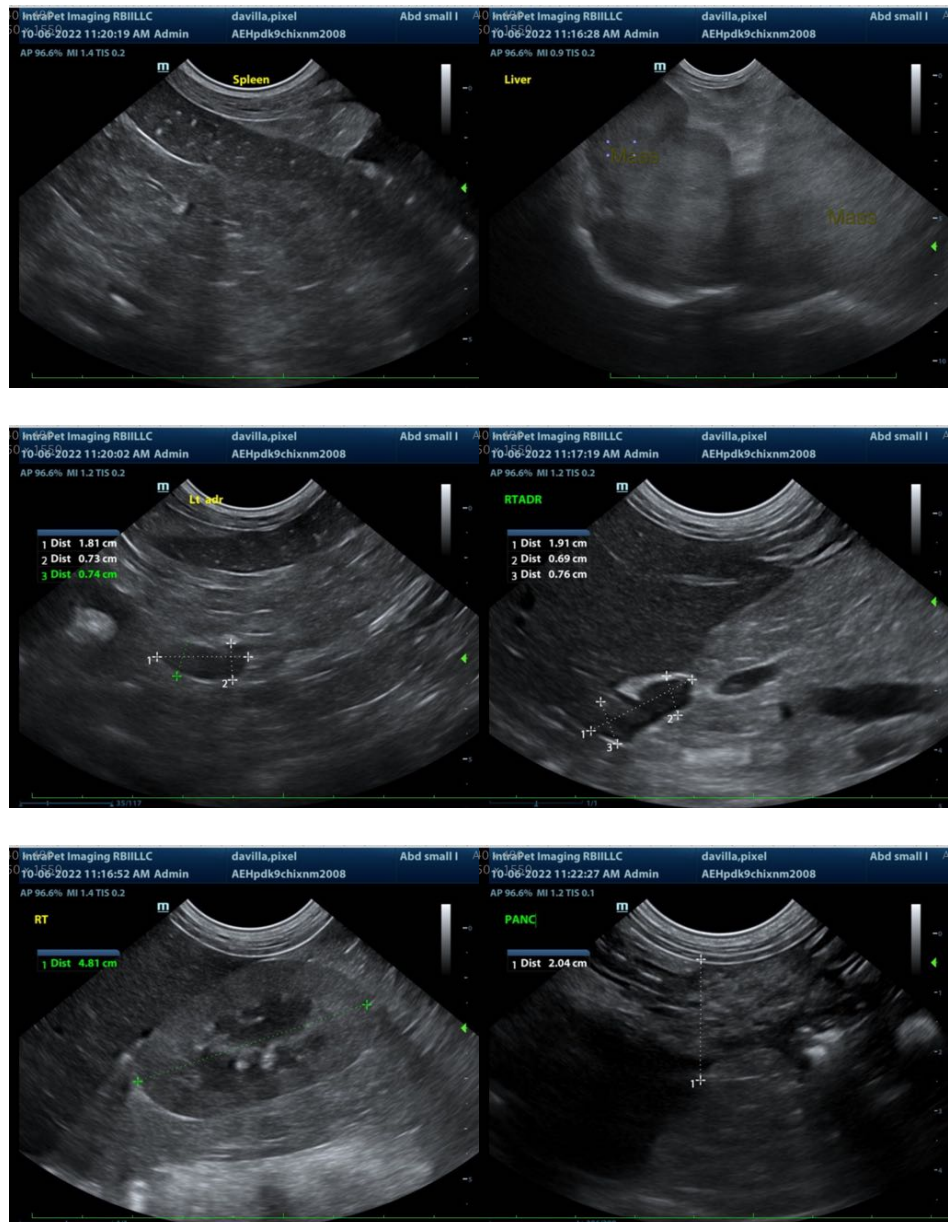
### **Secondary Findings**

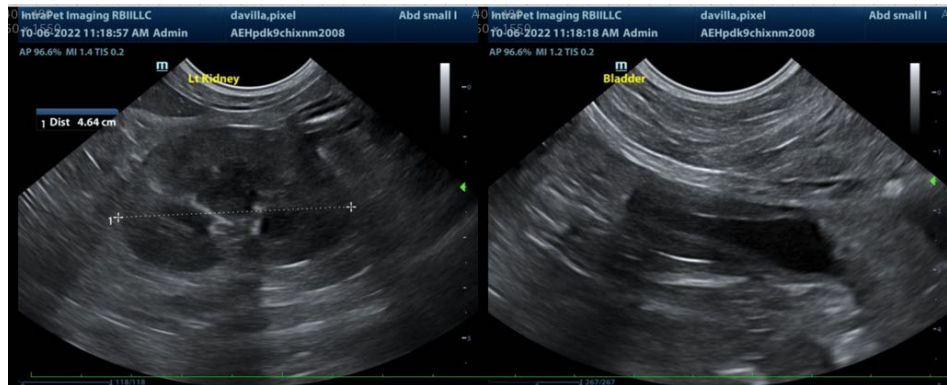
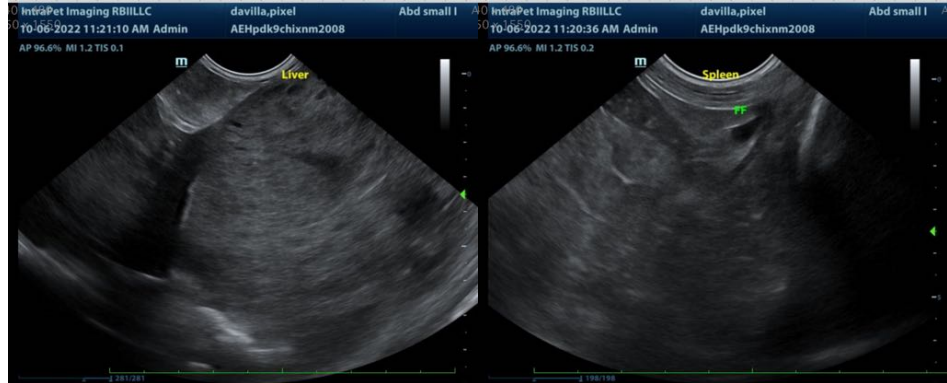
- **Spleen mineralization** – This is a benign change but can be associated with endocrinopathies, especially hyperadrenocorticism.
- **Pancreatic nodular hyperplasia** – Infiltrative neoplasia cannot be ruled out but is considered less likely.
- **Age related renal changes.**

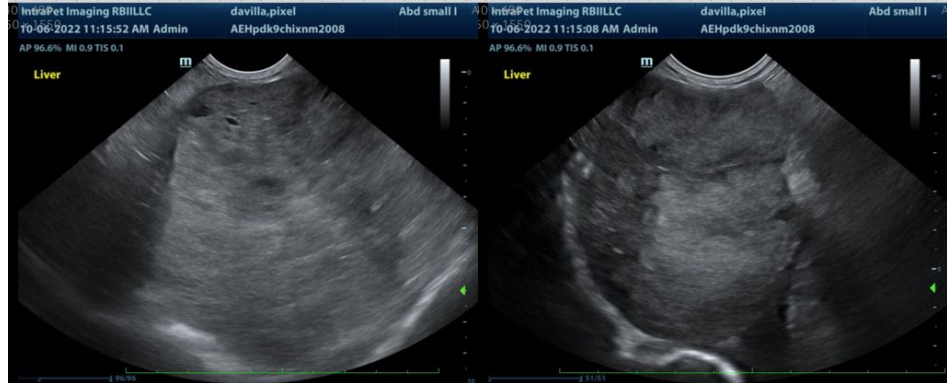
### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

FNA of the liver masses are recommended if the patient's coagulation status is appropriate. Alternatively, if this patient has a hemoabdomen and is progressive an exploratory laparotomy for planned excisional biopsies/liver lobectomy, mass removal may be indicated over a FNA. Given the multi-focal nature of the disease pre-surgical planning abdominal CT scan can be considered to more definitively address the resectability.







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.

**Beth Johnson, DVM DACVIM**  
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