

**DATE PRESENTING CLINICAL SIGNS**

6/13/23 Bouts of diarrhea.

**PATIENT** Current Medications: None listed.

Zoey Malek Lab Results: Bile acids are elevated.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Torbugesic 10mg/ml- 0.15 ml IV.

Stat Report: Not requested.

**SPECIES** Imaging Performed By: Rachel Brilhart, RDMS.

Canine

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

French Bulldog

**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.

**SEX**

Intact Female

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.15 cm. The left kidney measured 3.76 cm.

**AGE**

9/7/22

**WEIGHT**

17 Pounds

**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 1.85 cm x 0.59 cm at the caudal pole and 0.56 cm at the cranial pole. The left adrenal gland measured 1.7 cm x 0.57 cm at the caudal pole and 0.54 cm at the cranial pole.

**INTERPRETED BY**Eric Lindquist, DMV  
DABVP, Cert. IVUSS**HOSPITAL NAME**

Festival Vet Clinic

**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.

**REFERRING VET**

Dr. Prange

**Liver**

The **liver** was mildly subnormal in size with slight coarse architecture. Slight increased portal markings noted. Adequate intrahepatic volume. The gallbladder and common bile duct were unremarkable.

**INVOICE**

43117

Portal vein to vena cava and portal vein to aorta ratio was normal at 1:1. Vena cava measured 0.60 cm. Aorta measured 0.63 cm. Portal vein measured 0.67 cm. Portal vein branching was normal. No evidence of extrahepatic shunting.

**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Soft stool noted in the colon.

### **Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

### **Other**

Reactive mesenteric lymph nodes noted measuring 1.75 cm x 0.74 cm.

The uterus was unremarkable. The right ovary measured 0.75 cm.

### **ULTRASONOGRAPHIC FINDINGS**

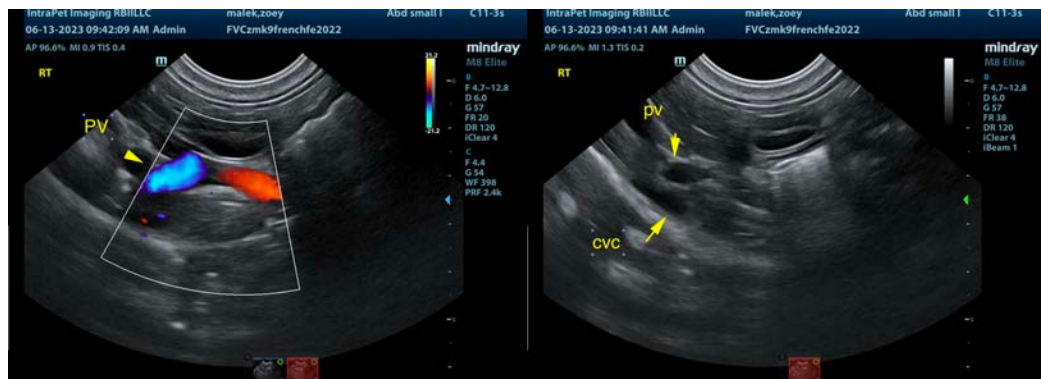
- No evidence of macroscopic shunting, yet likely portal hypoplasia/microvascular dysplasia.

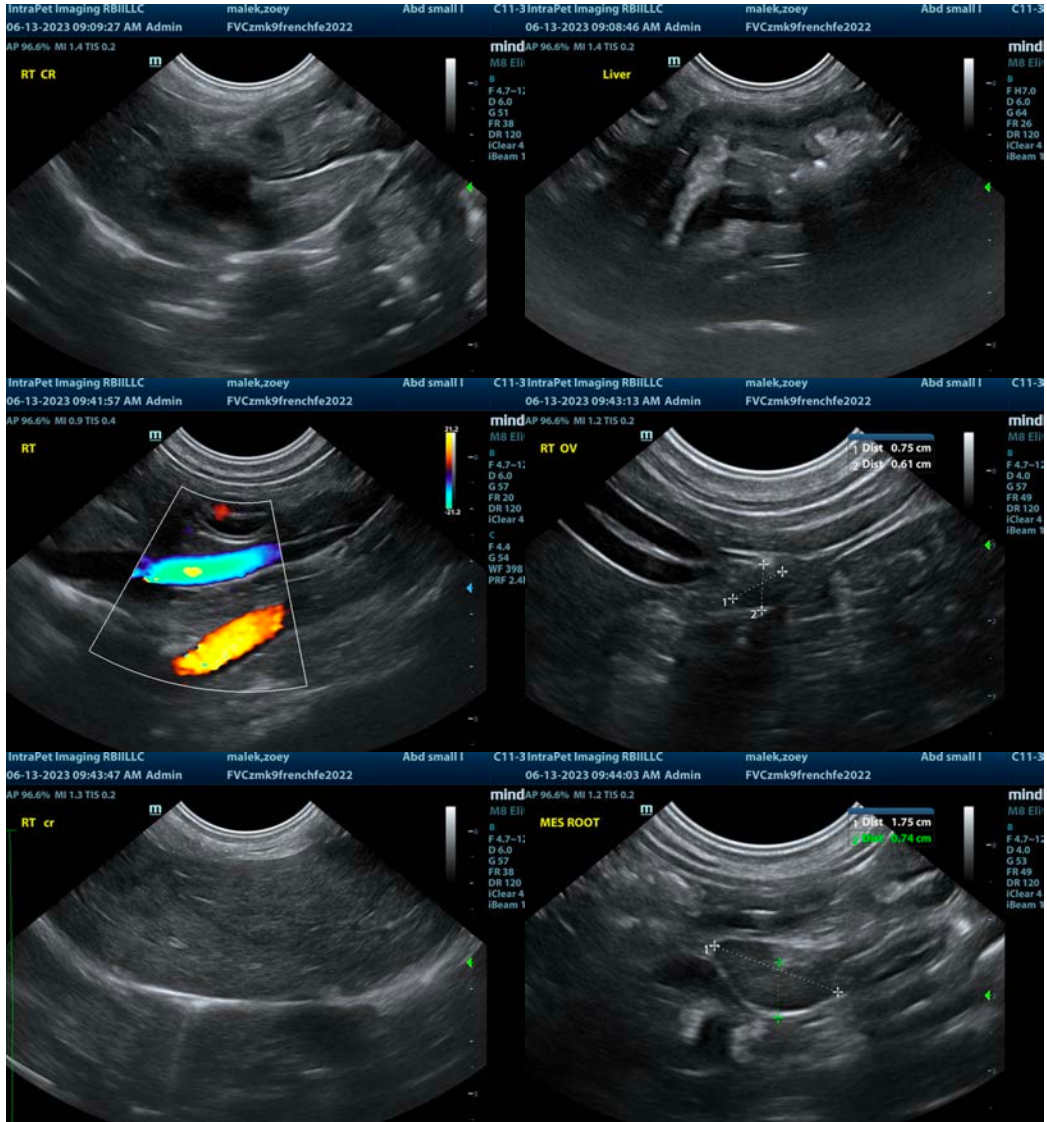
### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

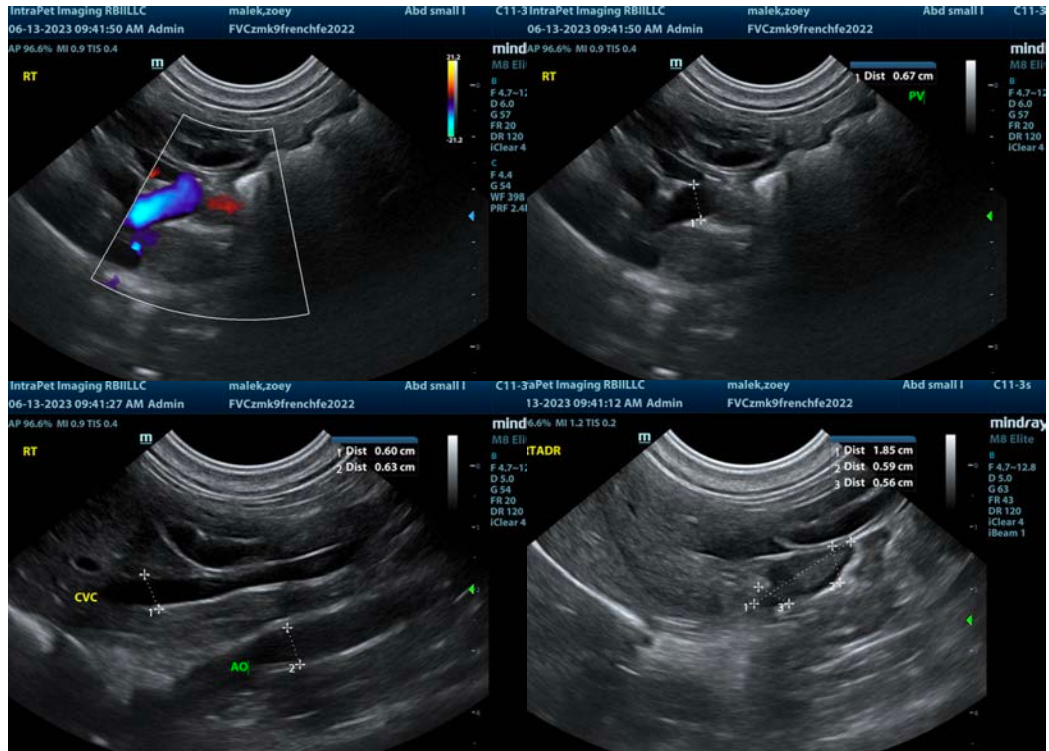
If this patient will be undergoing ovariohysterectomy, then liver biopsy should be taken at that time for long-term management. Suggested medical management would include the following:

#### **Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy**

Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt** or **cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. **Ursodiol** (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.







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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