



**PATIENT PRESENTING CLINICAL SIGNS**

**Sandy Rios** History: Referral for an abdominal ultrasound to evaluate possible pancreatitis – showed vomiting and hemorrhagic diarrhea, which has improved.

**SPECIES**

Canine

Physical Examination: Abdominal distension and discomfort, non-ambulatory and in lateral recumbency, uncoordinated and cannot stand up.

**BREED**

Pomeranian Mix

Urinalysis: N/A.

CBC: Anemia, neutrophilia, thrombocytopenia.

**SEX**

FS

Serum Biochemistry: Elevated SDMA and liver enzyme activity (mild), hypoproteinemia. 4Dx negative

Radiographic Findings: N/A.

**AGE**

8 years

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**WEIGHT**

14 #

Full urinary bladder containing small amount of floating hyperechogenic sediment. No uroliths evident. Ventral wall is thickened and irregular with a mottled echogenic appearance – 1.3 x 3 cm.

Normal trigone area, proximal urethra, and iliac blood vessels.

**INTERPRETED BY**

Remo Lobetti, BVSc,  
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Normal iliac lymph nodes (left 0.7 cm, right 0.8 cm). Ureters not visualized.

Normal renal size (left 4.5 cm, right 5 cm) with increased echogenic appearance, some loss of cortico-medullary differentiation, and normal capsule and pelvis. Small cortical cyst (0.3 cm) in the caudal pole of the left kidney.

**IMAGING PERFORMED BY**

Dr Gabriel Ferrer, DVM

**Reproductive System**

N/A.

**HOSPITAL NAME**

Paseos Veterinary Center

**Adrenal Glands**

Left – large irregular mottled echogenic mass (3 x 3.7 cm).

Right – normal shape, echogenic appearance, position, and size (0.7 cm).

**REFERRING VET**

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**Spleen**

Enlarged (1.2 cm) with a mottled echogenic appearance and irregular capsule. Mottled echogenic parenchymal nodules (up to 1.2 cm in size) in the head of the spleen.

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**Liver**

**DATE**

4/7/22

Normal size with a diffuse increased echogenic appearance, and some loss of portal markings. No nodules or masses evident. Full gall bladder containing small amount of hyperechogenic non-adherent sediment. Normal thickness (0.1 cm) and echogenic appearance of the gall bladder wall. Normal bile duct.



**PATIENT** *Gastrointestinal*

Sandy Rios Normal appearance of the stomach, duodenum, small intestine, and ileo-cecal junction with no loss of layering, normal wall thickness (stomach 0.42 cm, duodenum 0.45 cm, jejunum 0.35 cm) and peristaltic activity and no distension of the lumen. Thickening of wall of the colon (0.31 cm) but with no loss of layering. Plicated appearance of the duodenum. Fluid accumulation within the stomach.

**SPECIES**

Canine

**BREED** *Pancreas*

Pomeranian Mix Normal size (right 0.9 cm, left 1.9 cm) with a diffuse hyperechogenic appearance. Irregular capsule. Hyperechogenic appearance of the mesentery and fat surrounding the pancreas.

**SEX** *Free Abdomen*

FS Mild mesenteric lymphadenomegaly (0.5 x 1.7 cm).

**AGE** No ascites.

8 years

**ULTRASONOGRAPHIC FINDINGS**

Primary Findings:

- Pancreatitis.
- Hepatopathy.
- Splenomegaly with nodules.
- Left adrenal mass.
- Urinary bladder mass.

Secondary Findings:

- Age-related renal changes.
- Mesenteric lymphadenomegaly.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The appearance of the pancreas is typical for pancreatitis.

The most likely etiology for the hepatopathy would be secondary to the pancreatitis with vacuolar, reactive, hepatitis, and infiltrative neoplasia, differential diagnoses.

Etiologies for the spleen would be reactive, hyperplasia, splenitis, and infiltrative neoplasia.

Etiologies for the splenic nodules mass would be neoplasia with granuloma, abscessation and hematomas, differential diagnoses.

Etiologies for left adrenal mass would be non-functional carcinoma and pheochromocytoma.

The most likely etiology for the urinary bladder mass would be neoplasia with granulomatous reaction a differential diagnosis.

The mesenteric lymphadenopathy be considered reactive.

The fluid accumulation within the stomach, plicated appearance of the duodenum, and thickened colonic wall can all be ascribed to the pancreatitis.



**PATIENT**

Sandy Rios

Further assessment would be urinalysis, 3-view thoracic radiographs, cPL/PSL assay, blood pressure, and FNA cytology of the spleen, splenic nodules, liver, and left adrenal. Additional assessment that could be considered would be urine catecholamine assay, catheter-assisted aspirate/biopsy of the urinary bladder mass, and CT scan of the thorax and abdomen, especially if surgery is being considered.

**SPECIES**

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Specific therapy would be dependent on an etiological diagnosis.

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**SEX**

FS

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**PATIENT**

Sandy Rios

**SPECIES**

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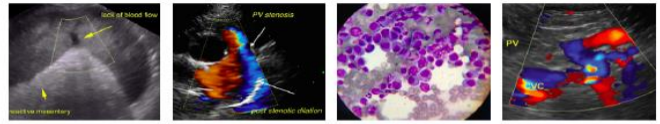
**IMAGES**

**Liver**



**Pancreas/duodenum**





**PATIENT Spleen**

Sandy Rios

**SPECIES**

Canine

**BREED**

Pomeranian Mix

**SEX**

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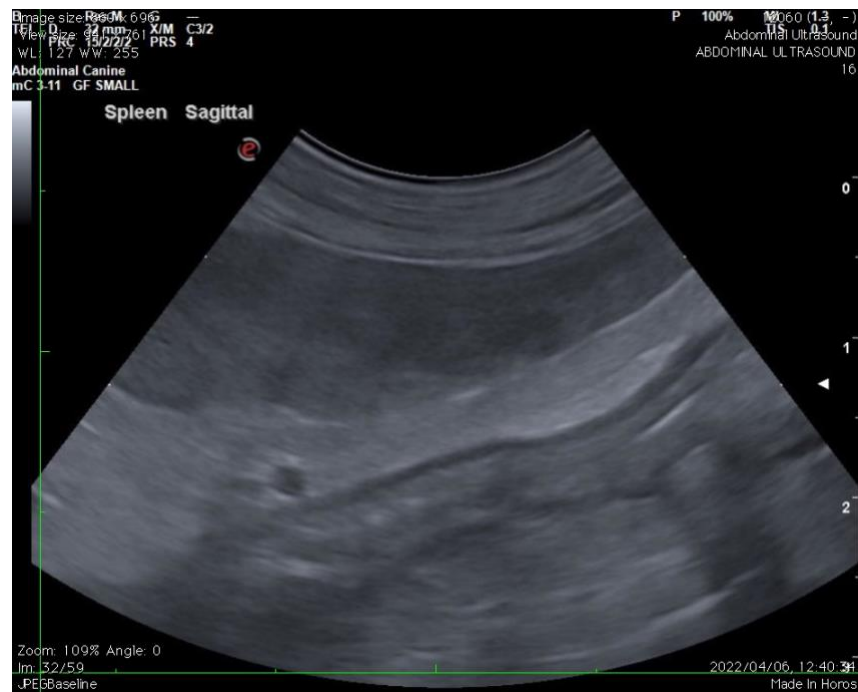
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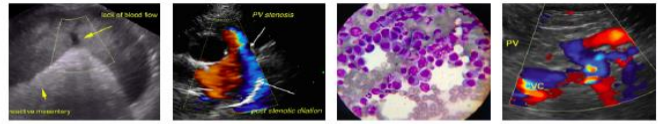
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**PATIENT** Left adrenal

Sandy Rios

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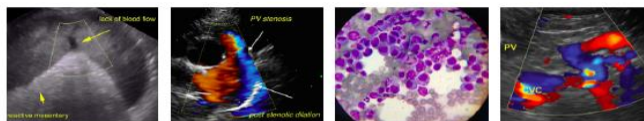
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**PATIENT**

Urinary bladder

Sandy Rios

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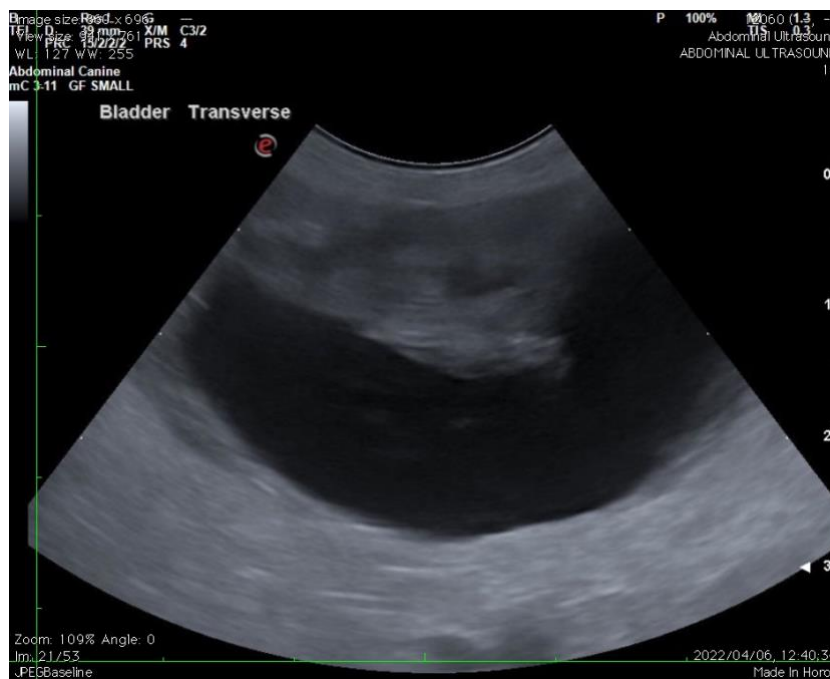
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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