



PATIENT PRESENTING CLINICAL SIGNS

Sofia Penelope
Gonzalez

SPECIES

Canine

BREED

Basset Hound Mix

SEX

Spayed Female

AGE

14 years

WEIGHT

42.6 lbs

Presented for an abdominal ultrasound for further evaluation of vomiting. Pt has been vomiting since last adequate injection (6-22-22) and had 5-6 episodes that day - vomited yellow liquid inappetence - ate a small amount of chicken and rice, but vomited it. PT vomited again on 6-27-22 and started having diarrhea with hematochezia. Pt has improved regarding mobility with previous medications BCS 6/9 lenticular sclerosis OU. absent menace OS firm nodule inner pinna AS moderate to severe calculus accumulation weak on hindlimbs prominent right submandibular lymph node hospitalized with IVF, cerenia IV SID, famotidine IV BID, metronidazole IV BID pending dx: abdominal ultrasound and immune panel

Abnormal PE/Chem/CBC/UA Results: PE: BCS 6/9 Lenticular sclerosis OU. absent menace OS firm nodule inner pinna AS moderate to severe calculus accumulation weak on hindlimbs prominent right submandibular lymph node cbc - non regenerative hypochromic microcytic anemia with Hct 21.6%, Hgb 8.3 and RBC 3.99; thrombocytopenia 62k; neutrophilia 14.48k chem - increased creatinine 1.9, hypocholesterolemia 99 radiographs - splenomegaly, spondylosis L1-L3 and OA changes at costochondral junctions 4dx - negative fecal - negative

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is well distended. The wall is smooth and regular, but mildly thickened (1.3-1.5 mm). No abnormalities are present with the trigone or proximal urethra. A moderate amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Dr. Ferrer

HOSPITAL NAME

Paseos VC

Kidneys

The **left kidney** measures 6.44 cm. The capsule is smooth. The cortex is hyperechoic and a loss of the normal definition of the cortico-medullary junction is present. An accumulation of fat is observed along the diverticulae and within the pelvis. There is no evidence of nephroliths. Pyelectasia is noted (transverse view 3.7 mm). An anechoic structure, with a smooth, thin wall, measuring 0.66 cm in diameter x 0.69 cm in length, is visualized within the cortex. It is most consistent with a benign cyst. The surrounding mesentery is severely hyperechoic.

The **right kidney** measures 6.24 cm. The capsule is smooth. The cortex is hyperechoic and a loss of the normal definition of the cortico-medullary junction is present. An accumulation of fat is observed along the diverticulae and within the pelvis. There is no evidence of nephroliths. Pyelectasia is noted (transverse view 3.6 mm). The surrounding mesentery is moderately to severely hyperechoic.

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Dr. Martes

Aortic bifurcation/trifurcation

No abnormalities observed.

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Adrenal Glands

The **left adrenal gland** measures 0.68 cm at the cranial pole, 0.64 cm at the caudal pole and 2.26 cm in length. A well-defined nodule is noted at the cranial pole, measuring 0.68 cm in diameter x 0.78 cm in

DATE

6/28/22



PATIENT	length, however, no abnormalities are noted with the gland's overall echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.
Sofia Penelope Gonzalez	
SPECIES	The right adrenal gland measures 0.71 cm at the cranial pole, 0.79 cm at the caudal pole and 2.32 cm in length. Ill-defined hyperechoic regions are observed throughout the gland, suggestive of fat, mineralization, ischemia, and/or fibrosis. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.
Canine	
BREED	Spleen
Basset Hound Mix	Splenomegaly, with folding of the spleen. It is moderately heterogeneous, with "moth eaten" areas noted throughout. The capsule is "swollen" and irregular. The tail is rounded in certain views, and
SEX	hypoechoic compared the remainder of the spleen. A "mass effect" of the tail is observed, measuring 1.69 cm in diameter x 3.16 cm in length. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. The surrounding mesentery is severely hyperechoic.
Spayed Female	
AGE	Liver
14 years	There are no obvious signs of hepatomegaly. The borders are smooth, but mildly rounded. The liver's echotexture is homogeneous, but mildly and diffusely hyperechoic, i.e., it is isoechoic to the spleen. Ill-defined hyperechoic regions are noted throughout the liver, which may be associated with inflammation, deposition of fat, mineralization, and/or ischemia, as well as fibrosis. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels. The mesentery surrounding the liver is diffusely hyperechoic.
WEIGHT	
42.6 lbs	
INTERPRETED BY	The gallbladder (GB) is moderately distended with a moderate to marked amount of free floating aggregated and swirling echogenic material (sludge). The GB wall is within normal limits in thickness and echogenicity. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	
IMAGING PERFORMED BY	Gastrointestinal
Dr. Ferrer	The gastric wall is within normal limits in thickness and the wall layers are well defined, however, the the mucosa and submucosa are thickened, and fogging of the mucosa is present. No obvious abnormalities are observed with its peristalsis.
HOSPITAL NAME	The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. A large amount of gas, fluid and ingesta are present within the lumen of the jejunum, in addition to fogging and stippling of the mucosa. Abnormally dilated loops of bowel are not observed.
Paseos VC	
REFERRING VET	A large amount of gas is present within the transverse colon.
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PATIENT

Pancreas

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Gonzalez

The **left limb** is mildly hypoechoic with smooth and regular contours. A mildly coarse echotexture is also observed. The former abnormalities are suggestive of active pancreatitis, while the latter are most likely due to age-related changes, such as nodular hyperplasia and fibrosis, respectively.

SPECIES

Canine

Other

BREED

Lymph nodes

Basset Hound Mix

Gastric LN: An enlarged and hypoechoic LN, 0.71 cm in diameter x 0.87 cm in length. The mesentery surrounding the lymph node is mildly hyperechoic.

SEX

Ventral to the left adrenal gland: An enlarged and hypoechoic LN, 1.38 cm in diameter x 1.98 cm in length. The mesentery surrounding the lymph node is moderately to severely hyperechoic.

Spayed Female

A few **jejunal** lymph nodes are mildly enlarged and hypoechoic.

AGE

Medial iliac LNs

14 years

- **Right:** mildly hypoechoic and possibly mildly enlarged (diameter and length) 0.75 cm in diameter x 2.44 cm in length

WEIGHT

- **Left:** mildly hypoechoic and possibly mildly enlarged (diameter and length) 0.77 cm in diameter x 2.64 cm in length

42.6 lbs

Abdominal effusion is not visualized.

INTERPRETED BY

Lisa Carioto, DVM,
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ACVIM

ULTRASONOGRAPHIC FINDINGS

IMAGING PERFORMED BY

Dr. Ferrer

- **Spleen:** Splenomegaly. Differential diagnoses for the abnormalities observed include neoplasia, such as lymphoma, histiocytic sarcoma, or other round cell tumour. However, extramedullary hematopoiesis, hypersplenism and reactive hyperplasia cannot be excluded. A fine needle aspirate is required to obtain a definitive diagnosis, however, the moderate thrombocytopenia increases the risk of hemorrhage.
- **Lymph nodes:** Mild lymphadenomegaly of multiple lymph nodes, which may be due to reactive hyperplasia. However, infiltration with neoplastic cells cannot be excluded.
- **Kidneys:** Pyelectasia alone may occur due to polydipsia and polyuria, as well as intravenous fluids. However, pyelectasia, in conjunction with hyperechogenicity of the cortices and surrounding mesentery may occur secondary to pyelonephritis or glomerulonephritis.
- **Urinary bladder:** The free floating sediment within the lumen of the urinary bladder is most likely composed of mucus, crystalline material and exfoliated cells. However, a subclinical urinary tract infection cannot be excluded given the mild thickening of the bladder wall. Findings should be correlated with clinical signs, a urinalysis and urine culture and sensitivity.
- **Pancreas:** Signs of mild active pancreatitis are present, in addition to age-related changes, such as nodular hyperplasia and fibrosis. Fibrosis may also occur secondary to previous episodes of

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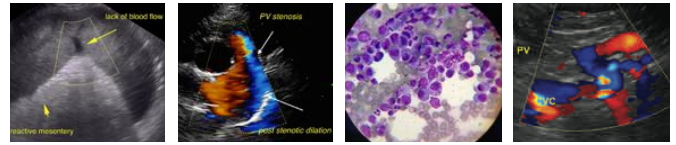
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PATIENT	pancreatitis, mineralization, ischemia, as well as amyloid deposition. Overt signs of neoplasia of the pancreas are not noted.
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- **Liver:** Ill-defined hyperechoic regions are noted throughout the liver, which may be associated with inflammation, deposition of fat, mineralization, and/or ischemia, as well as fibrosis.
- **Gallbladder:** *Gallbladder sludge* is often clinically insignificant, however, gastroesophageal reflux disease (GERD), can occur in some patients. Obtaining a history regarding signs of GERD (prior to this episode of illness) from the client is suggested. Cholecystitis cannot be excluded despite the absence of classical sonographic signs.
- **Adrenal glands:** The well-defined nodule noted at the cranial pole of the **left** gland may be due to a benign adenoma or lipoma. There are no signs of neoplasia. The caudal pole of the **right** gland may be due to hyperplasia secondary to chronic illness or stress. Fat, mineralization, ischemia, and/or fibrosis may be causing the ill-defined hyperechoic regions observed throughout the gland. There are no signs of neoplasia and the surrounding vasculature and mesentery are unremarkable.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Evaluate the blood smear of the CBC for agglutination and spherocytes to exclude immune mediated hemolytic anemia.

- ⇒ If IMHA is present, in conjunction with thrombocytopenia, Evan’s Syndrome, secondary to an adverse reaction to Adequan, must be considered. Note, one may need to contact the manufacturer to report an adverse reaction.
- ⇒ However, the latter may also be a coincidence and Evan’s syndrome due to underlying neoplasia, for example, lymphoma or histiocytic lymphoma, is possible.

Thoracic radiographs to evaluate for sternal lymphadenomegaly, a pulmonary mass, or metastases, which could support a diagnosis of lymphoma or histiocytic sarcoma.

Analgesia, including, gabapentin and an opioid (e.g., methadone). Once feeling better, consider acupuncture and laser therapy to help control discomfort, in addition to mobility diets.

Transfusion with packed red blood cells, depending on clinical status (heart rate, respiratory rate and pattern, etc).

A fine needle aspirate of the spleen and lymph nodes may be considered following a transfusion if the platelet count stabilizes.

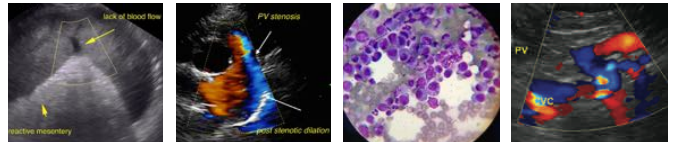
Treatment of IMHA with steroids (1-1.5 mg/kg/day) may be considered, with or without vincristine intravenously (assuming immune-mediated thrombocytopenia). However, their administration may also lead to remission or partial remission if lymphoma is present. That is, their administration may affect the ability to obtain a cytological diagnosis.

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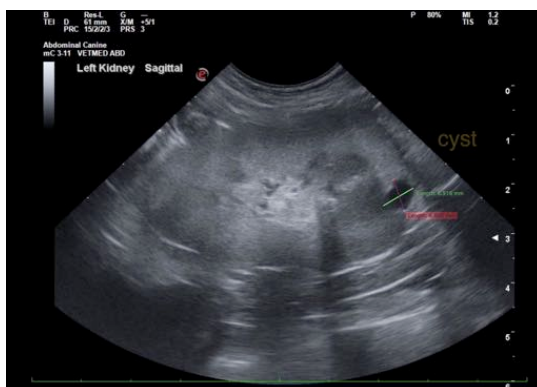
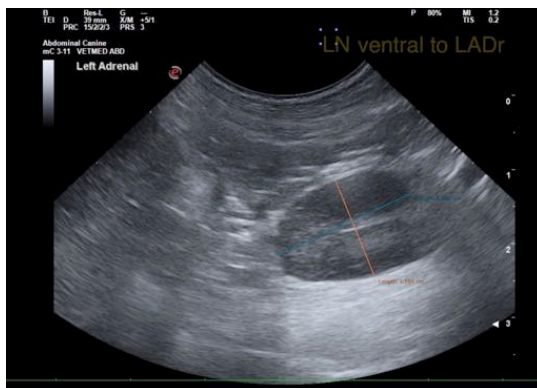
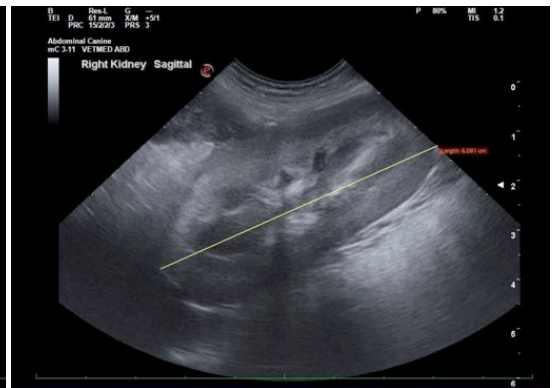
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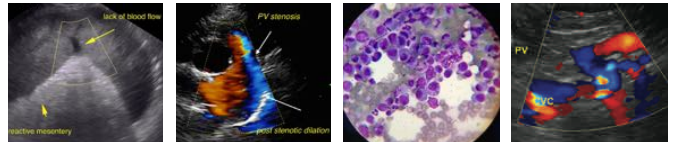
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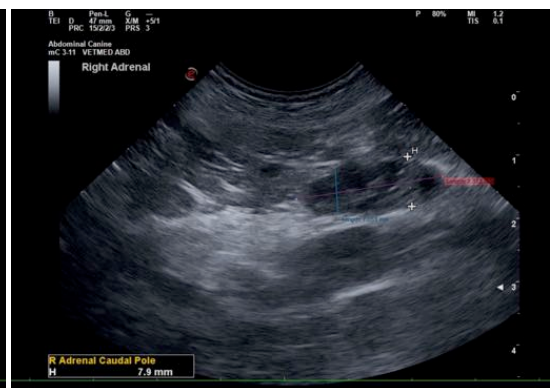
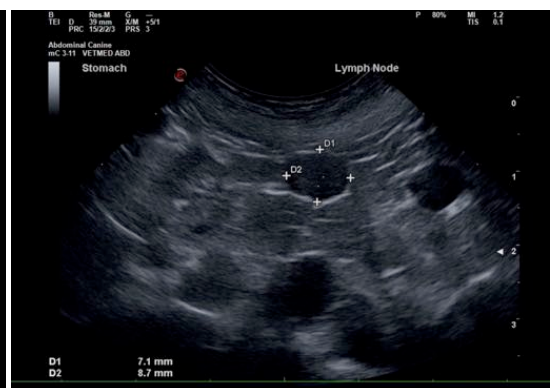
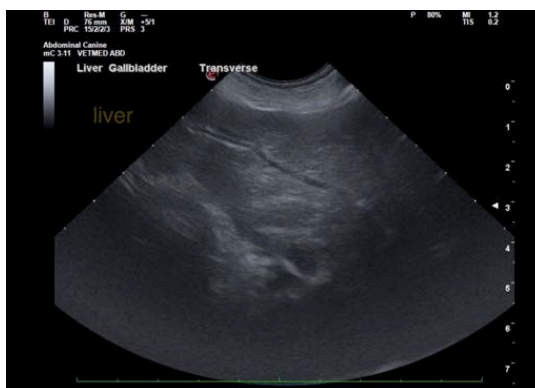
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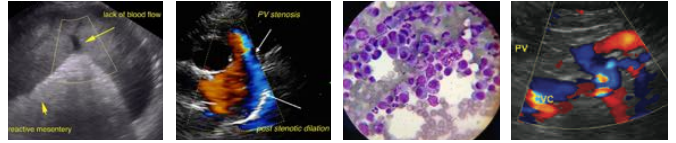
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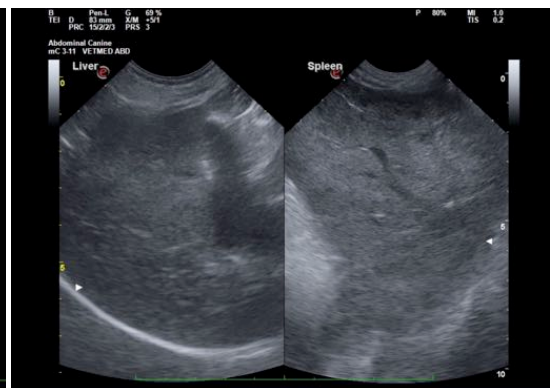
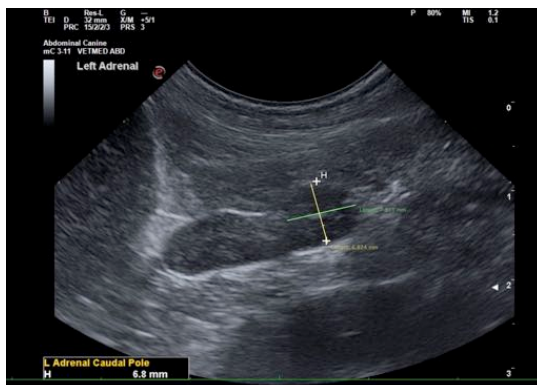
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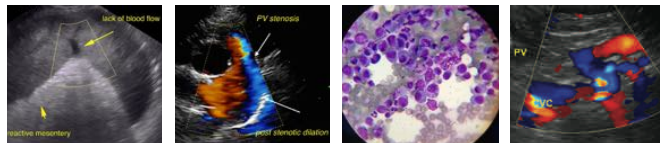
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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Lisa.Carioto@sonopath.com

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