



PATIENT PRESENTING CLINICAL SIGNS

PATIENT
Smudge Crum

SPECIES
Feline

History: Hx of patient losing weight, not wanting to eat. Previous ultrasound showed findings consistent with a gastric hairball and O has been giving laxatone since then. Cat did vomit up a couple of hairballs after that.

Abnormal PE/Chem/CBC/UA Results: heart murmur grade III/VI, cardio pro B&P snap test is normal BUN 49, rest of adult chem WNL HCT 23, Plt estimate decreased, did not have enough blood for full CBC but WBCs are WNL T4 2.7

BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Domestic Longhair

Urinary System

SEX

Spayed Female

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

AGE

18 years

The **left** kidney measures 3.09 cm (3.80-4.40 cm); decreased in size. The capsule is smooth, however, the cortex is mildly to moderately hyperechoic and a mild to moderate loss of the normal definition of the cortico-medullary junction is present. Pinpoint and small, punctate mineralizations of the diverticulae are present, without evidence of nephroliths or pyelectasia. Accumulation of intrapelvic fat is present. The surrounding mesentery is mildly hyperechoic.

WEIGHT

5 lbs

The **right** kidney measures 3.40 cm; mildly decreased in size. Findings are similar to the left kidney.

Adrenal Glands

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

The **left** adrenal gland measures 0.67 cm in diameter x 0.87 cm in length. Although no abnormalities are observed with its overall echogenicity or echotexture, the gland is slightly "plump". The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable. There are no signs of neoplasia.

The **right** adrenal gland measures 0.49 cm in diameter. No abnormalities are observed with its overall echogenicity or echotexture and an obvious mass is not identified. There are no signs of metastases or thrombi in the phrenicoabdominal vein or the surrounding vasculature.

IMAGING PERFORMED BY

Jenny Parrish

HOSPITAL NAME

Local Mobile Vet

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

REFERRING VET

Dr. Parrish

Liver

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There are no obvious signs of hepatomegaly and its borders are smooth, but slightly rounded. The liver's echotexture is slightly coarse, which is not uncommon in a cat of Smudge's age. It is mildly hyperechoic, i.e. it is isoechoic to the spleen. No abnormalities are observed with the hepatic vessels.

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PATIENT	The gall bladder wall is within normal limits in size, thickness and echogenicity. Its contents are anechoic. 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.
Smudge Crum	
SPECIES	
Feline	
	Gastrointestinal
BREED	The gastric wall and pylorus are normal in thickness. There is no loss of definition of the normal architecture of the layers of the stomach wall. No obvious abnormalities are observed with its peristalsis. A small amount of hyperechoic, granular material is present within the lumen.
Domestic Longhair	
SEX	The small intestinal wall thickness is within normal limits. The definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed. The ileo-cecal-colic junction is unremarkable.
Spayed Female	
AGE	Pancreas
18 years	The left limb is heterogeneous with ill-defined hyperechoic areas (“patches”) dispersed haphazardly throughout its parenchyma, as well as pinpoint and small, punctate hyperechoic foci. Differential diagnoses for these hyperechoic areas foci and patches include mineralizations, as well as fibrosis due to previous episodes of pancreatitis, ischemia or amyloid deposition. Furthermore, depending on the angle of the probe, one or even two “mass effects” may be observed. These seem to be “artifact”, caused by fat and fibrosis of the pancreatic acini. However, the “normal” pancreatic parenchyma is hypoechoic to the surrounding mesentery, therefore, active pancreatitis is suspected. Obvious signs of neoplasia are not appreciated.
WEIGHT	
5 lbs	
INTERPRETED BY	The right limb of pancreas as not visualized in its entirety. From what was seen, it has a mildly to moderately coarse echotexture and is mildly heterogeneous. These changes are most likely due to nodular hyperplasia and areas of fibrosis, which are considered secondary to age and possibly to previous episodes of pancreatitis, respectively. Signs of active pancreatitis or neoplasia are not appreciated.
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	
IMAGING PERFORMED BY	Other
Jenny Parrish	Lymph nodes No abnormalities are observed
HOSPITAL NAME	Abdominal effusion is not visualized.
Local Mobile Vet	
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr. Parrish	<ul style="list-style-type: none"> Mild degenerative changes of both kidneys observed, which are suggestive of age related degeneration. Although obvious signs of pyelonephritis are not visualized, the latter cannot be excluded based on the absence of sonographic abnormalities, and pyelonephritis is not uncommon in older cats. The “plump” left adrenal gland is not considered clinically significant at the moment. Differential diagnoses include a benign adenoma or hyperplasia secondary to stress (chronic illness).
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PATIENT	<ul style="list-style-type: none"> The liver is diffusely, but mildly, hyperechoic, which may be due to subclinical hepatic lipidosis due to hyporexia. However, if pancreatitis is present, one cannot exclude the possibility of cholangitis/cholangiohepatitis and an ascending bacterial infection from the GI tract.
Smudge Crum	
SPECIES	<ul style="list-style-type: none"> No major abnormalities are observed with the GI tract. The hyperechoic mesentery surrounding the stomach is most likely a result of the left limb of the pancreas. There are no obvious signs of infiltrative disease, however, inflammatory bowel disease, and certain neoplasms, such as lymphoma, may be present in the absence of sonographic abnormalities.
Feline	
BREED	<ul style="list-style-type: none"> Differential diagnoses for the changes observed with the left limb of the pancreas include, mineralizations, as well as fibrosis due to previous episodes of pancreatitis, ischemia or amyloid deposition. The “mass effects” observed are attributed to “artifact”, created by fat and fibrosis within and surrounding the pancreatic acini.
Domestic Longhair	
SEX	<ul style="list-style-type: none"> Active pancreatitis is suspected based on the hypoechoic regions of the pancreas and hyperechoic mesentery. Obvious signs of neoplasia are not appreciated.
Spayed Female	

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

AGE	18 years	A urinalysis and urine culture and sensitivity are recommended to exclude pyelonephritis.
WEIGHT	5 lbs	Treatment for pancreatitis is recommended, most importantly, analgesics, such as buprenorphine, +/- gabapentin every 8-12 hours. Additional supportive care, such as subcutaneous fluids, may also be considered.
INTERPRETED BY	Lisa Carioto, DVM, DVSc, Diplomate ACVIM	A TLI, vitamin B12, and folate may be performed as cats suffering from pancreatitis and IBD may suffer from cobalamin deficiencies and exocrine pancreatic insufficiency. If the test is cost prohibitive, supplementation with vitamin B12 is suggested.
IMAGING PERFORMED BY	Jenny Parrish	Obtaining a history regarding clinical signs of gastroesophageal reflux disease (GERD) is suggested, as multiple, small meals throughout the day, as well as a proton pump inhibitor at 0.7 - 1 mg/kg PO BID may be indicated.
HOSPITAL NAME	Local Mobile Vet	As mentioned above, subclinical hepatic lipidosis due to hyporexia may be the cause of the diffuse hyperechogenicity of the liver. However, if pancreatitis is present, one cannot exclude the possibility of cholangitis/cholangiohepatitis or an ascending bacterial infection. Although indiscriminate use of antibiotics is not normally recommended, one could administer a broad-spectrum antibiotic and assess Smudge’s response to therapy.
REFERRING VET	Dr. Parrish	Finally, if there is no response to the above suggestions, and further diagnostic tests will not be pursued (i.e. endoscopy with biopsies), empirical therapy with dexamethasone at <u>0.05 mg/kg/day</u> may be attempted. The latter is suggested due to Smudge’s heart murmur. An echocardiogram would ideally be performed prior to using steroids, however.

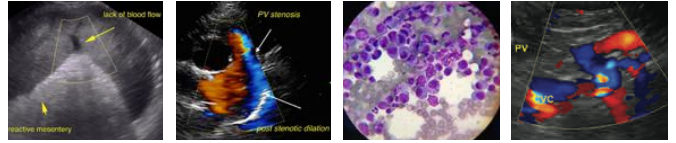
Although some treatment recommendations have been described, an internal medicine consult may be requested to describe all possible options in further detail. This may be done by email or telephone.

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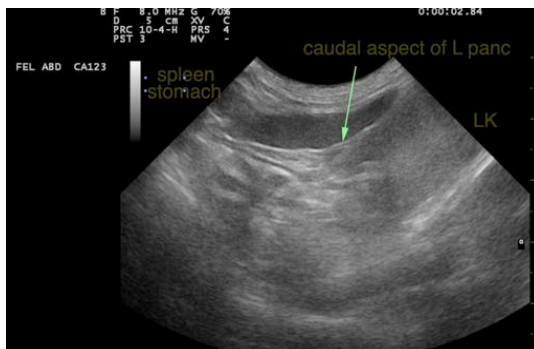
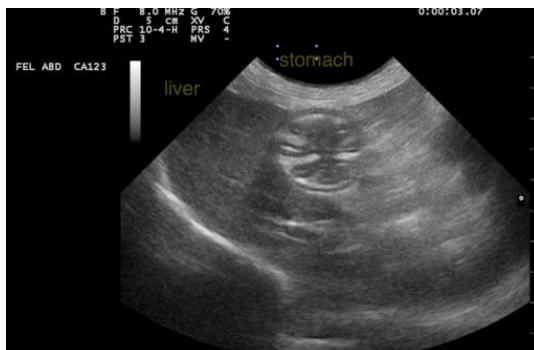
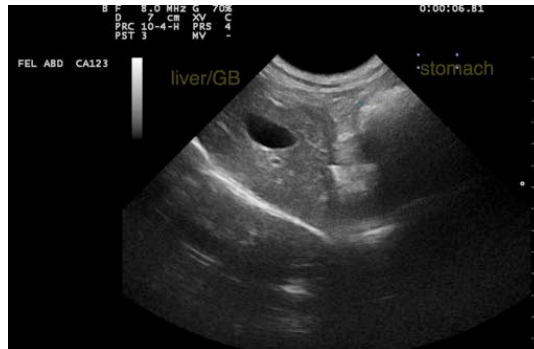
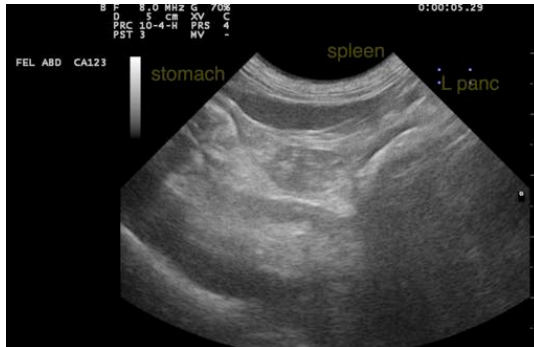
Dr. Parrish

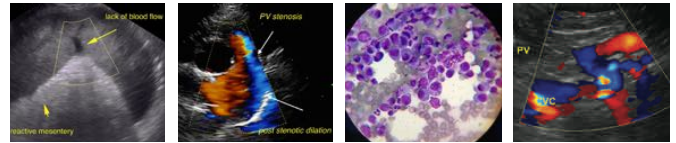
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

IMAGING PERFORMED BY

Jenny Parrish

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