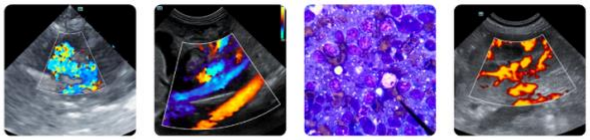

PATIENT

Snowflake Lydum

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

14 Years

WEIGHT

9.4 pounds

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING PERFORMED BY

Dr. Jack Reese DVM

HOSPITAL NAME

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INVOICE

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DATE

11/19/25

PRESENTING CLINICAL SIGNS

Several month history of vomiting and increased appetite. Slight weight loss noted over last 6 months (~1/2 lb). Bloodwork, physical exam largely unremarkable - recommended imaging as next step. Chronic history of heart murmur (Grade 3/6 systolic). Recommend echocardiogram to evaluate - currently asymptomatic.

Abnormal PE/Chem/CBC/UA Results: Recent labwork unremarkable - normal BG, euthyroid Treated for UTI in October 2025 - active sediment noted with cocci

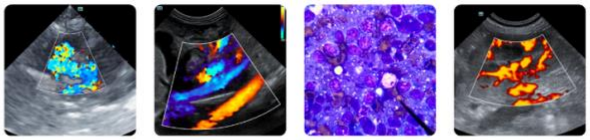
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	--	NM	0.53	1.0	0.57	45	78
FELINE CARDIAC PARAMETERS	**LA/AO** (M-mode)	**LA/AO HEART BASE** (Sisson)	**LAD** LA MAX 4 Chamber		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	NM	1.2	1.2		1.0	0.85	NM
Adapted from June Boon,Veterinary Echocardiography,1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size and dimension. LV mild myocardial remodeling. Chamber volume and blood echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. No overt definitive MR on doppler. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. The **myocardium** presented some echogenic remodeling consistent with expected age-related change. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated normal laminar flow with subjectively unremarkable structure. Normal measured LVOT velocity. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.

Urinary System



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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic change were noted.

The area of the aortic trifurcation was free of pathology.

Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Pinpoint to focal areas of medullary mineral and intermittent small cortical cysts were visualized bilaterally. The left kidney measured 3.6 cm in length. The right kidney measured 4.3 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.35 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.35 cm width.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

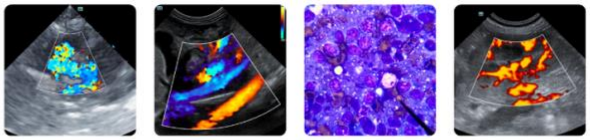
Gastrointestinal

The stomach presented with regional mild to variably thickened wall exhibiting decreased mural echogenicity and sectorial indistinct mural detail. The stomach was nondistended containing a mild amount of nonshadowing ingesta and lumen gas. Gastric body wall measured 0.54 cm wall width. No evidence of obstruction to pyloric outflow.

The small intestine presented with mildly thickened generalized intestine wall exhibiting intact to segmental indistinct mural detail and hypoechoic mural echogenicity. The small intestine contained segmental generally mild nonshadowing ingesta/chyme and lumen gas without overt obstructive pattern to the level of the colon. The duodenum wall measured 0.39 cm width. The jejunum wall measured 0.27 cm width.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas



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The left pancreas presented mildly prominent in size, mild capsule asymmetry and isoechoic remodeled to heterogeneous parenchyma compared to adjacent omentum. Mild prominent left limb pancreatic duct.

Free Abdomen

Mild gastric lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic to perigastric hyperechoic omentum. An example of lymph node size was 0.80 cm in diameter.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Normal cardiac structure/function with mild LV remodeling.
- Mild thickened gastrointestinal tract exhibiting regional gastric and segmental intestinal indistinct mural detail.
- Probable chronic pancreatitis.
- Mild gastric lymphadenopathy and hyperechoic omentum.

Secondary Findings

- Chronic renal changes exhibiting mild medullary mineral and small cortical cysts.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No cardiac clinical issues such as left or right heart chamber enlargement, LV systolic dysfunction, HCM criteria or pulmonary hypertension. A definitive cause of the murmur was not obvious. Regardless of classification, the current hemodynamic effects of the murmur appear to be low. No indication for cardiac medication. Conservative monitoring of the murmur is recommended with recheck echo suggested in 6-12 months or sooner if clinically indicated or increase in murmur intensity. Cardiac anesthetic risk, if required, is mild. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

Primary considerations for the gastrointestinal tract may include inflammatory versus emerging neoplastic etiologies. A GI panel to include PLI, TLI, cobalamin and folate for further clarification and correlation with probable chronic pancreatitis is recommended. Gastrointestinal biopsies would be required for a definitive diagnosis. Gastrointestinal support and consideration for empirical IBD/chronic pancreatitis protocol with clinical and as needed sonographic monitoring would be reasonable.

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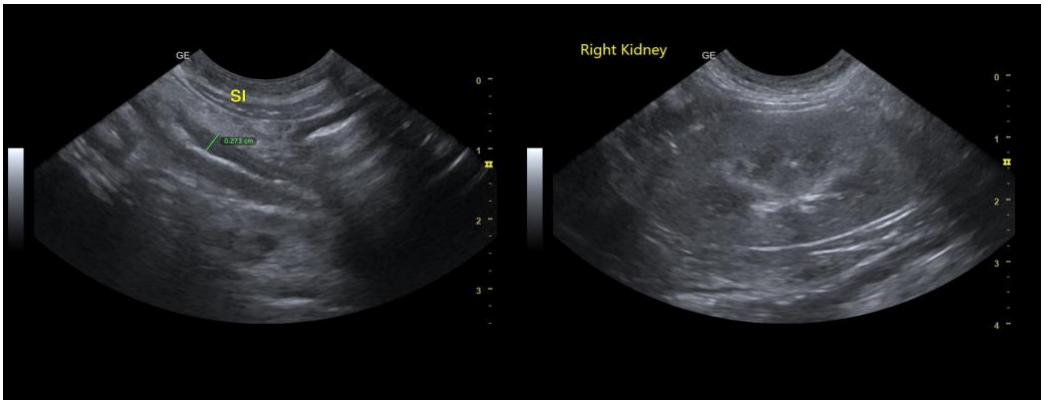

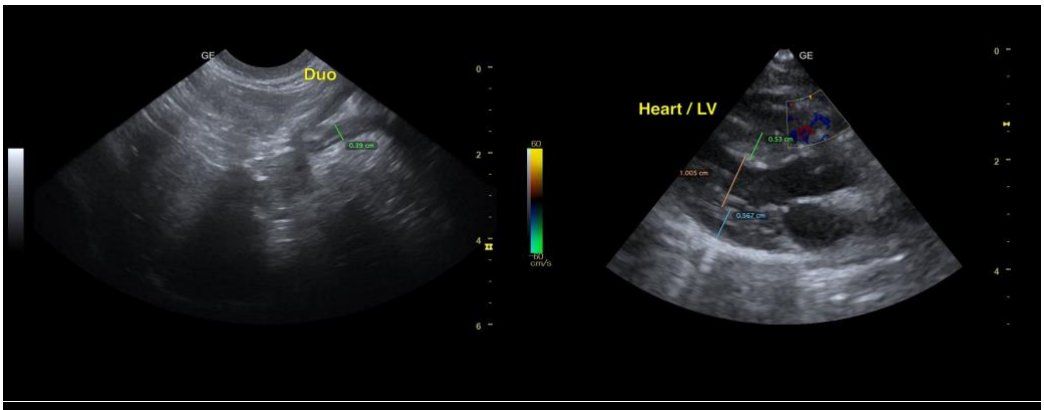

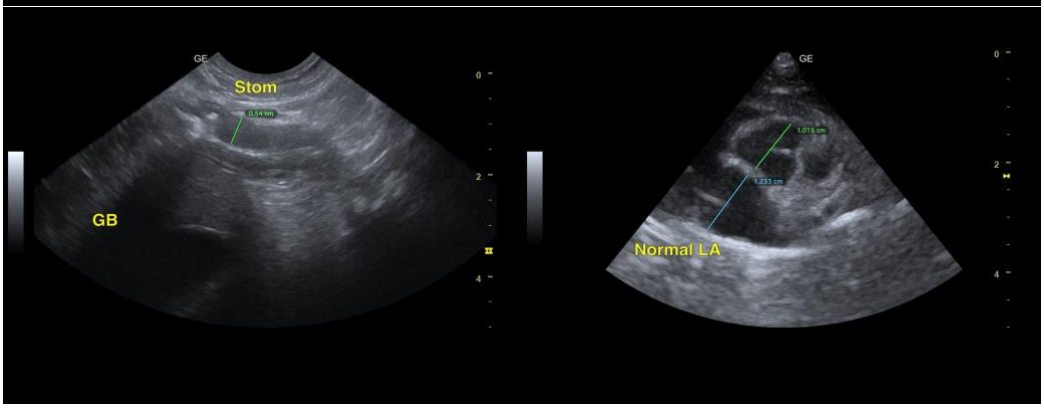

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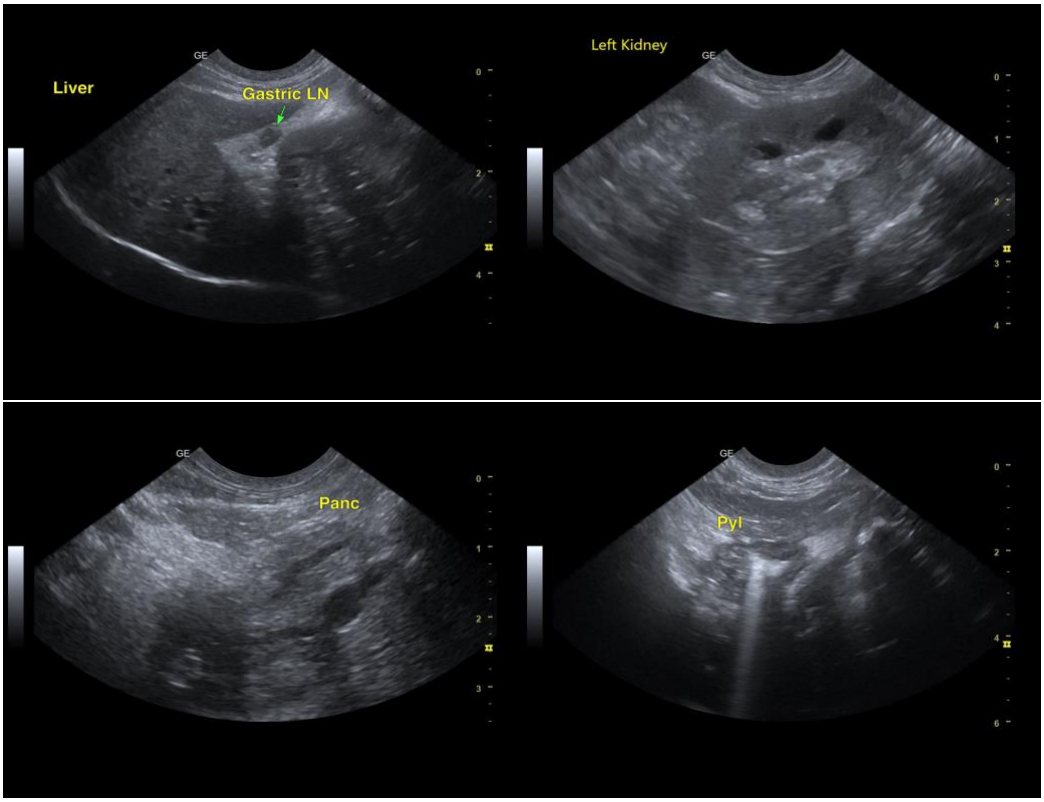

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com