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Clinical Sonography & Telecytology
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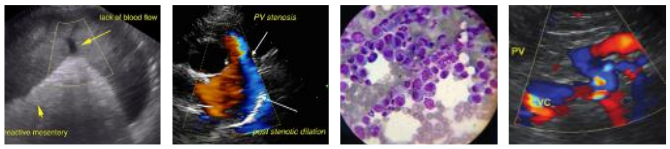


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Gummy Vargas

SPECIES
Feline

BREED
DLH

SEX
MN

AGE
18.5yr

WEIGHT
7.2lb

INTERPRETED BY
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Companion AH

REFERRING VET
Dr. Tsai

INVOICE
12292ag

DATE
11/28/2022

PRESENTING CLINICAL SIGNS

Diabetic, lethargic. ADR

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

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		121	0.58	1.42	0.56	48.5	82
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	40-60
PATIENT	1.4	1.2	1.3		1.0	0.7	
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							

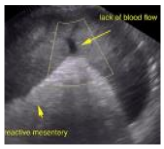
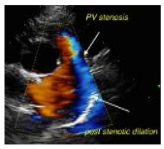
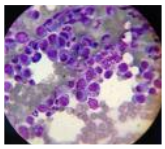
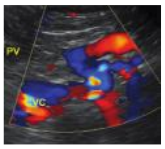
Cardiac Presentation

The echocardiogram in this patient demonstrated enlarged **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented mild degenerative thickening with normal linear structure and kinetics. No overt MR on Doppler. The **left ventricular** septum and free wall revealed normal thicknesses, reduced contractility and mildly reduced left ventricular volume with subjective reduced diastolic filling. Some echogenic remodeling of the septum and free wall was present. This is most consistent with some level of **myocardial fibrosis**. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity.
The **right atrium** and auricle revealed increased size and normal content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. Mild TR present on Doppler measuring 2.5 m/s. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 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 changes were noted.

Subnormal right kidney size and normal left kidney size with normal margination was present in the kidneys. A normal 1:3 cortex / medulla ratio and mild to moderate loss of corticomedullary border demarcation were present. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. A hyperechoic corticomedullary band, consistent with a medullary rim sign, was present. This is

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a nonspecific finding seen in both normal and abnormal kidneys. It may be associated interstitial renal disease, hypercalcemia, tubular necrosis, lymphoma, and FIP. However, it is a nonspecific finding. The left kidney measured 3.7 cm in length. The right kidney measured 3.1 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The area of the left and right adrenal glands was free of pathology.

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. The spleen measured 0.70 cm in width at the level of the hilus.

Liver

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

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

Pancreas

The pancreas exhibited variably prominent size with non-uniform to mixed echogenic parenchyma along with pancreatic duct dilation. A large pancreatic cyst containing anechoic fluid was present occupying the proximal left to mid distal left pancreatic limb measuring 4.4 cm in diameter. A smaller adjacent cyst was present.

Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function for age with LV myocardial remodeling
- Mild TR
- Bilateral chronic renal changes exhibiting non-specific mild medullary rim sign
- Remodeled to prominent pancreas with large left limb cyst
- Minor hepatic parenchyma remodeling
- Sonographically unremarkable GI tract

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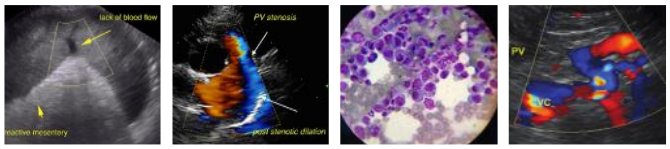

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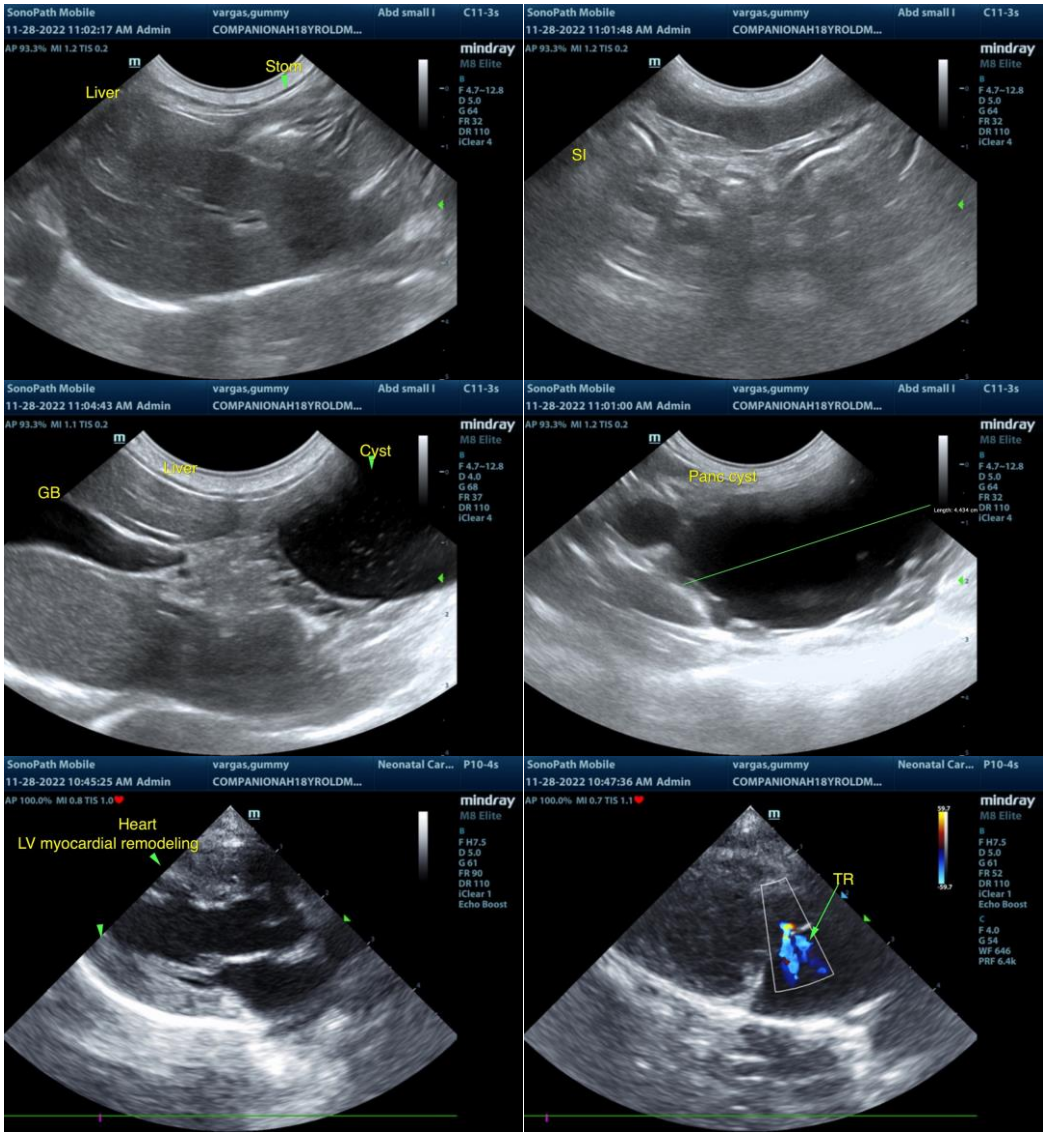
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If a murmur is present, a benign physiologic flow murmur or small flow abnormality is suspected. No indication for cardiac medications. Prognosis is highly variable and serial sonographic monitoring is required for further prognosis. Recheck echocardiogram recommended in 6 months, sooner if clinical signs arise.

Assessment for evidence of cranial abdominal discomfort on palpation is suggested. Pancreatic abscess is considered less likely although some degree of chronic-to-chronic active pancreatitis is suspected. No evidence of pancreatic of intra-abdominal neoplastic criteria was observed. Assessment of T4 levels with full CBC/Chem/UA panel if not recently done is recommended. FNA centesis of the pancreatic cyst for cytology +/- C/S could be considered.

Empirically as needed supportive care and therapy for suspected chronic pancreatitis pending additional diagnostics would be reasonable.



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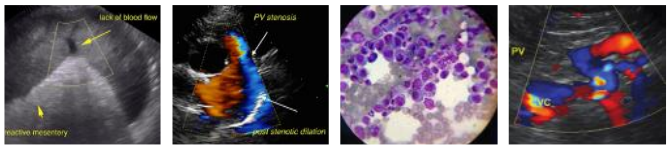

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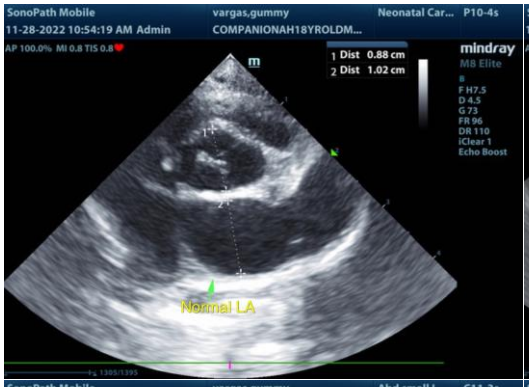

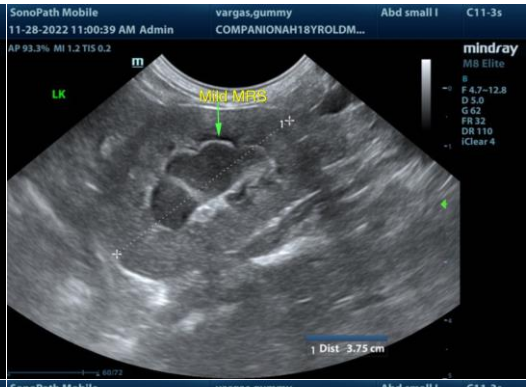

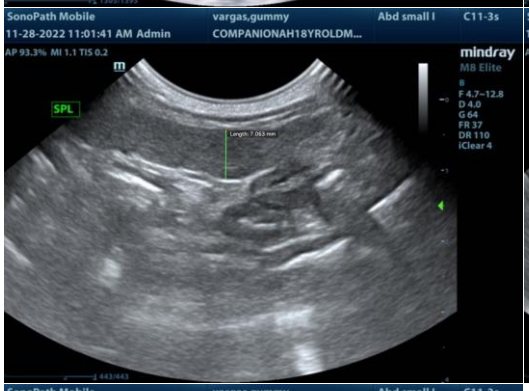

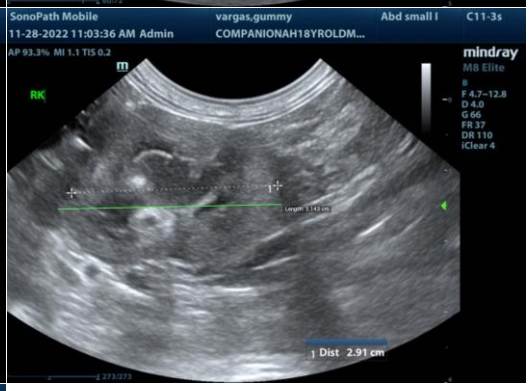

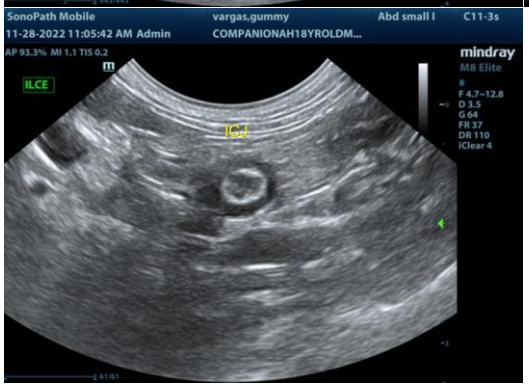

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com