

PATIENT PRESENTING CLINICAL SIGNS

Callie Hornstra History: Anorexia, lethargic

SPECIES Abnormal PE/Chem/CBC/UA Results: ^ ALT 139, ^ AST 172, Urine pending

Feline **ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

BREED

DSH

SEX

Female Spayed

AGE

7y

WEIGHT

14.6 lbs

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	--	210	0.6	01.5	0.6	46	81
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	--	1.1	1.1		--	0.8	--

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

INTERPRETED BY

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

Cardiac Presentation

The left ventricular wall is borderline mild hypertrophied with regions of irregularity. There is a diffusely hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Papillary muscle hypertrophy with regions of remodeling. Normal left atrial dimension, no spontaneous contrast. Indistinctive visualized yet subjective systolic anterior motion (SAM) in the mitral valve present with dynamic LVOT profile. Mild eccentric MR present secondary to subjective SAM. Dynamic LVOT profile. There is mild to moderate eccentric mitral regurgitation present secondary to SAM. Normal right atrial size. Normal right ventricle size. Normal RVOT velocity. No TR. No other obvious valvular regurgitation is present. There is no pericardial effusion noted. No pleural effusion appreciated. No obvious cardiac tumors.

Urinary System

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 changes were noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the

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Becca Hamilton

HOSPITAL NAME

All Creatures Denville

REFERRING VET

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cortex with no evidence of pelvic dilation. The left kidney measured 4.0 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 0.49 cm. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.5 cm.

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 presented borderline mildly enlarged in size. The parenchyma of the liver presented mildly homogenous and hyperechoic compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The capsule of the liver was symmetrical in margination. 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 a thickened wall layering exhibiting increased hyperechoic wall echogenicity. The lumen of the stomach contained mild to moderate retained fluid without obstruction to pyloric outflow. Gastric body wall measured 0.49 cm and pylorus wall measured 0.57 cm.

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. Jejunum wall measured 0.24 cm and duodenum wall measured 0.25 cm.

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

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Hypertrophic obstructive cardiomyopathy – compensated
- Hepatopathy exhibiting parenchymal hyperechogenicity – inflammation, i.e. cholangiohepatitis or similar given elevated ALT/AST favored, lipidosis, occult round cell neoplasia, all potentials
- Sonographically normal gallbladder and common bile duct



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- Thickened hypomotile stomach exhibiting wall hyperechogenicity – nonspecific gastritis, infectious disease, i.e. helicobacter, neoplasia or other
- Sonographically normal small intestine/area of pancreas

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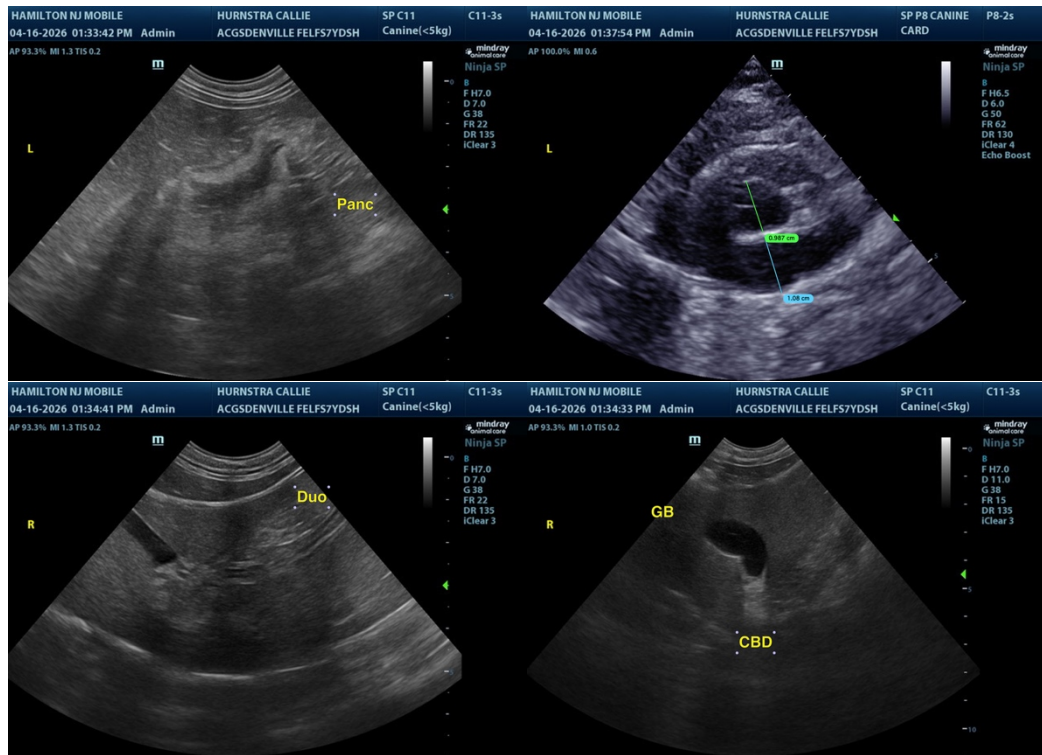
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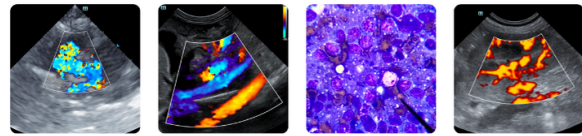
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The hypertrophic obstructive cardiomyopathy is a rule-out diagnosis once the patient is deemed euthyroid and normotensive. The lack of La enlargement indicates the current and future risk of complication is low. No indication for cardiac medications. Echocardiographic monitoring required for further prognosis. Recheck echo suggested in 6 months, sooner if clinically indicated.

Assuming normal clotting status and using 25-gauge needle, hepatic and consideration for gastric wall FNA cytology for further assessment is recommended. Definitive diagnosis would require gastric biopsies for histopathology. A GI panel to include PLI/TLI/Cobalamin/Folate is warranted to assess for non-structural intestinal disease or mild pancreatitis which may present sonographically normal as contributing factors. Empirical therapy for suspect cholangiohepatitis with gastro protectants and clinical/sonographic monitoring would be more conservative.





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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.

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