



PATIENT

Teeny Duel

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

16 years

WEIGHT

10.2

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenna Walsh

HOSPITAL NAME

Eugene Mobile VS

REFERRING VET

Dr. Rensema

INVOICE

12247

DATE

9/16/21

PRESENTING CLINICAL SIGNS

4/6 systolic murmur Mid abdominal mass palpable Easily expressed urinary bladder; periuria Current Medications Clavamox

Abnormal PE/Chem/CBC/UA Results: Other than a mild anemia, nothing of note.

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		182	0.41	1.7	0.42	45.9	80.7
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	1.6	1.68	1.4	1.6	1.0	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 minor **left atrial** enlargement. 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. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. Mildly prominent papillary muscles in the left ventricle lumen were noted. 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. 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). No dilation due to cuor pulmonale, stenosis, or overt pulmonic hypertension was noted. Minor free pleural fluid was noted without overt



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evidence of concurrent pericardial free fluid. The **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 2.0 cm exhibited normal thickness and tone. Echogenic to particulate sediment was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.1 cm in length. The right kidney measured 4.4 cm in length.

Adrenal Glands

The bilateral adrenal glands were normal in size and contour. Pinpoint areas of mineralization were present without capsular distortion or overt tumors. This is an age-related finding and not pathological. The left adrenal gland measured 0.31 width and the right adrenal gland measured 0.55 width.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

Liver/ Gallbladder

The liver exhibited mild generalized enlargement with normal 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. A focal parenchymal cystic lesion was noted adjacent to the gallbladder. 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 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.



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Normal visible colon wall layers were present with mild generalized colonic dilation containing non-formed to liquid feces.

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Pancreas

The left pancreatic limb exhibited generalized enlargement, asymmetrical contour and nonhomogeneous parenchyma exhibiting hyperechoic foci to lesions which may indicate areas of fibrosis or potential emerging mineralization. Potential for mass effect in the left pancreatic limb measuring 3.7 cm x 1.6 cm.

Free Abdomen

Generalized nonuniform to nodular omentum most notable around the pancreas was present. Moderate mildly cellular peritoneal effusion was noted.

ULTRASONOGRAPHIC FINDINGS

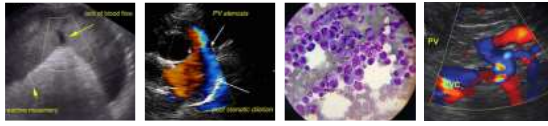
Primary Findings

- Age-related cardiac changes
- Minor left atrium enlargement
- Enlarged to nonhomogeneous left pancreas - consistent with left pancreatic mass lesion
- Generalized nonuniform to nodular omentum most notable around the pancreas
- Moderate mildly cellular peritoneal effusion with concurrent minor pleural effusion
- Nonspecific hepatomegaly with focal parenchymal cystic lesion

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommend abdominocentesis, rapid cytospin and rapid slide preparation of the sediment to conserve the integrity of the cells would be recommended in order to optimize the cytological interpretation. Culture of the fluid can also be considered if any suspicion of inflammatory elements is noted. FIP is technically a potential; therefore, FIP titers on the fluid are essential; however, given the age of the patient FIP is less likely. Carcinomatosis suspected to be arising from primary pancreatic neoplasia or lymphomatosis are the primary differentials.

The free fluid has mild echogenic changes to it. Given that no subnormal albumin that would diminish oncotic pressures to the point of causing free fluid, as well as no evidence of passive congestion with hepatic vasculature or vena cava and no significant, diffuse hepatic disease, is noted as well as no evidence of intestinal perforation or other pathology that would be responsible for effusion of this nature, lymphatic obstruction owing to carcinomatosis associated with pancreatic neoplasia and / or lymphomatosis or similar is of primary concern until proven otherwise. Potential for focal hepatic metastasis cannot be excluded.



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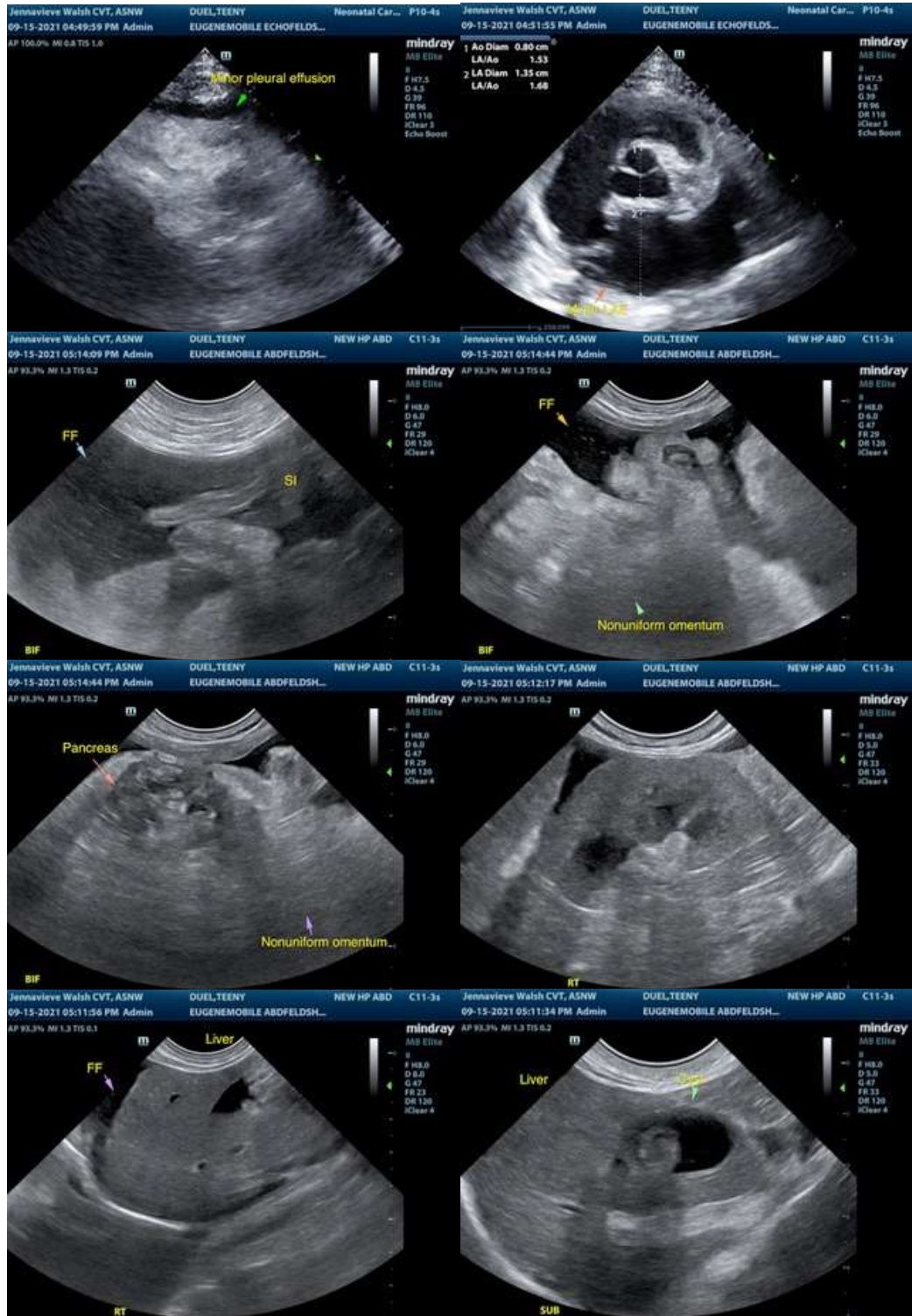
Dr. Rensema

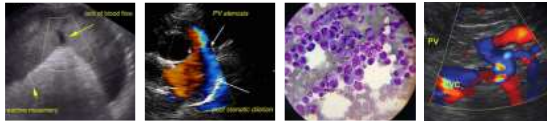
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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