



## PATIENT

Jasmine Holly

## SPECIES

FE

## BREED

DSH

## SEX

F/S

## AGE

10

## WEIGHT

15

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dr. Hunt

## HOSPITAL NAME

Bayshore Veterinary  
Hospital

## REFERRING VET

Dr. Hunt

## INVOICE

15957

## DATE

1/26/23

## PRESENTING CLINICAL SIGNS

Acute resp distress yesterday, responded to oz, onsiior.  
Abnormal PE/Chem/CBC/UA Results: wbc near zero

## 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	0.65	1.25	0.59	48	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		1.33	1.2	NM	NM	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							

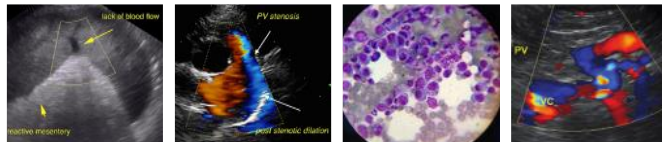
## Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented borderline increased IVS and free wall thicknesses with maintained linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The **left ventricular outflow** tract demonstrated possible mild dynamic to turbulent systolic outflow yet normal subjective structural integrity. No measured LVOT. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. 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 measured RVOT. 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



<b>PATIENT</b>	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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 was noted.
Jasmine Holly	
<b>SPECIES</b>	
FE	The area of the aortic trifurcation was free of pathology.
<b>BREED</b>	
DSH	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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.5 cm in length. The right kidney was not definitively visualized. Mild medullary mineralization was present.
<b>SEX</b>	
F/S	<b>Adrenal Glands</b>
<b>AGE</b>	The left and right adrenal glands were not definitively visualized.
10	<b>Spleen</b>
<b>WEIGHT</b>	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.
15	
<b>INTERPRETED BY</b>	<b>Liver/ Gallbladder</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The liver was s normal in size and contour with subjective normal hepatic parenchyma echogenicity exhibiting moderate coarse echotexture. Generalized biliary tree mineralization was present. The gallbladder was non-distended in size containing primarily anechoic content with mild luminal. No overt evidence of post hepatic obstruction.
<b>IMAGING PERFORMED BY</b>	<b>Gastrointestinal</b>
Dr. Hunt	The stomach presented intact wall layering with mild retained gastric fluid.
<b>HOSPITAL NAME</b>	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.
Bayshore Veterinary Hospital	
<b>REFERRING VET</b>	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. Hunt	<b>Pancreas</b>
<b>INVOICE</b>	The left limb of the pancreas presented hypoechoic to heterogeneous echogenicity compared to adjacent omental fat. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic reactivity / inflammation. No overt evidence of neoplasia.
15957	
<b>DATE</b>	<b>Free Abdomen</b>
1/26/23	No overt omental masses, lymphadenopathy, or evidence of peritoneal effusion were noted.



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**ULTRASONOGRAPHIC FINDINGS**

- Borderline prominent IVS and LV free wall
- Normal LA
- Diffuse biliary tree mineralization
- Non-distended gallbladder with minor luminal mineral
- Mild left pancreatitis pattern
- Mild hypomotile stomach
- Minor left kidney medullary mineral

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal cardiac structure and function without evidence of significant cardiomyopathy, i.e., left or right heart chamber enlargement, LV systolic dysfunction, or significant valvular insufficiencies. The borderline prominent IVS and LV free wall main indicate some degree of myocardial thickening which would be a rule-out diagnosis assuming the patient is euthyroid and normotensive. The lack of left atrium or generalized left or right heart chamber enlargement indicated that the respiratory abnormalities in this patient are non-cardiogenic in origin. Infectious, parasitic, and neoplastic inflammatory etiologies could be possible. No indication for cardiac medications. Assessment of T4 levels and systemic BP, if not done, is recommended. As-needed respiratory support is indicated. Recheck echocardiogram is recommended in 3-4 months to assess for evidence of possible progressive LV thickening, sooner if clinical signs suggestive of primary cardiac disease arise.

The biliary tree and gallbladder mineral are nonspecific and likely incidental without evidence of reported cholestasis or hepatic enzyme elevations. This finding has at times been associated with previous hepatobiliary inflammatory disease if clinically applicable. Medical therapy for low-grade left pancreatitis and secondary gastric hypomotility is suggested. If clinical signs consistent with pancreatitis are present, a Spec fPL is suggested.



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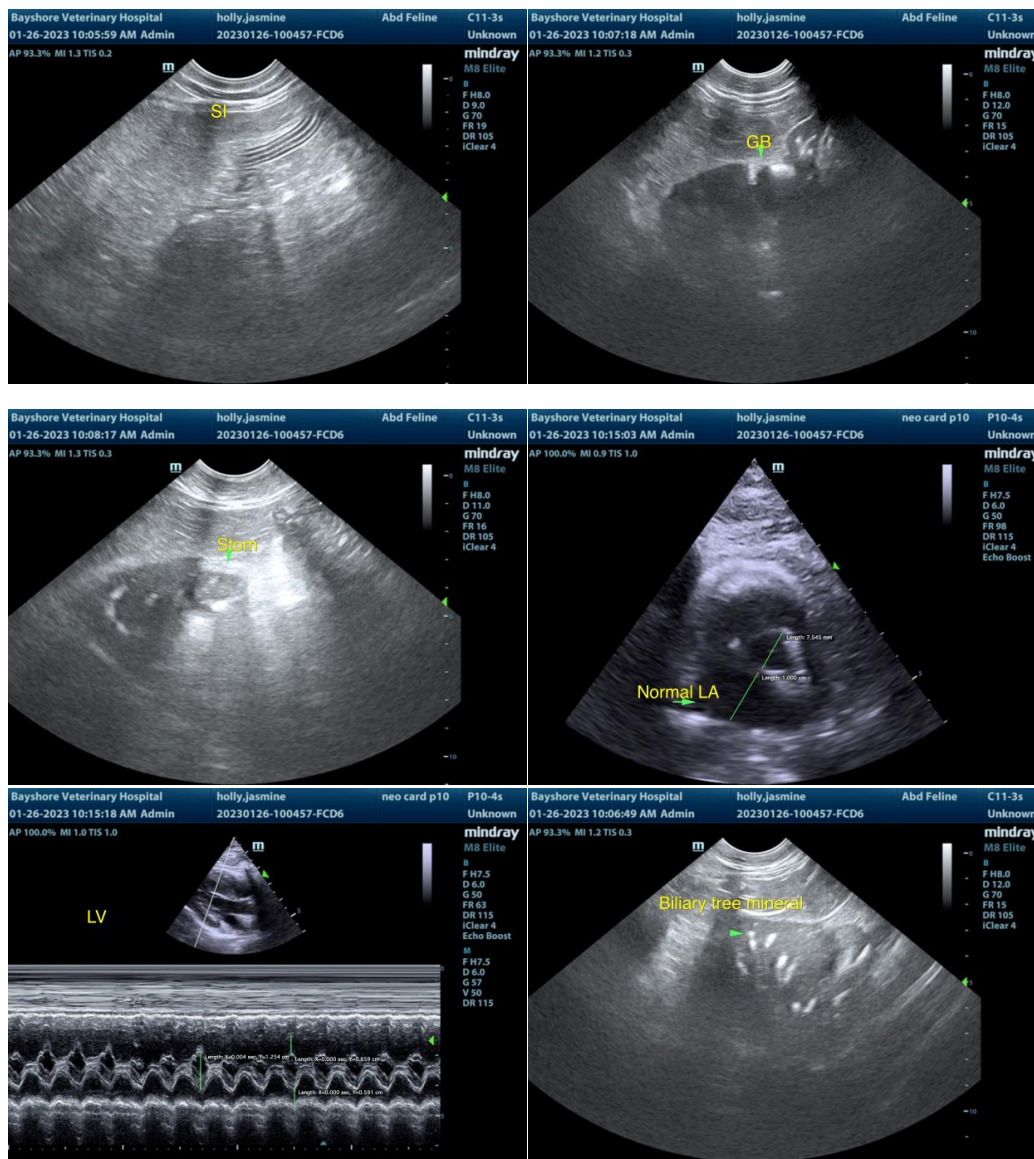
Dr. Hunt

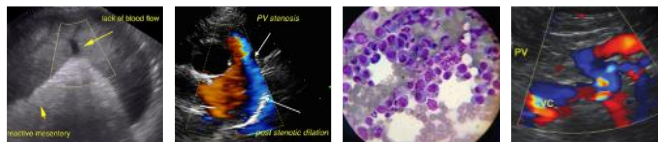
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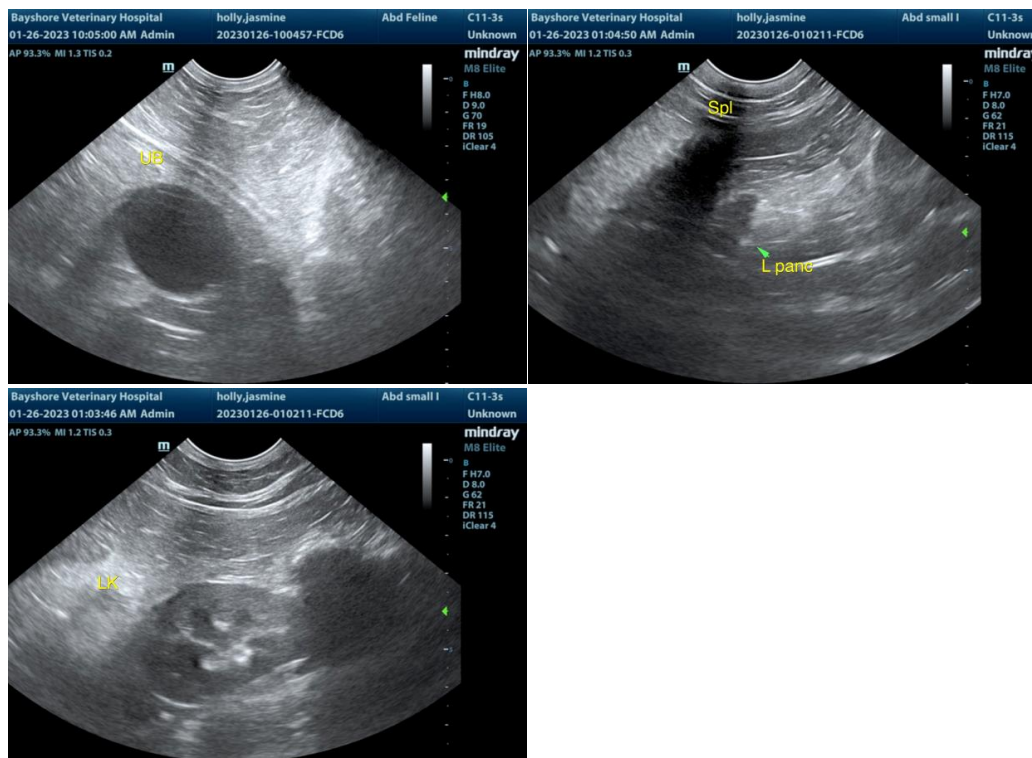
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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