

**PATIENT**

Butterscotch Parsons

**SPECIES**

Feline

**BREED**

DMH

**SEX**

Spayed Female

**AGE**

3 Years

**WEIGHT**

10.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV,  
 DABVP (CFM), Cert.  
 IVUSS

**IMAGING PERFORMED BY**

Kathleen Byrnes

**HOSPITAL NAME**

Shallowford Animal  
 Hospital

**REFERRING VET**

Dr Eads

**INVOICE**

72337

**DATE**

12/4/25

**PRESENTING CLINICAL SIGNS**

P initially presented for a URI. Has been going on for a few weeks, sneezing, increased respiratory effort. Rads showed PPDH with suspected liver in pericardial sac. Planning surgery with specialist next week. 2 rads attached

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (lbs)	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	10.3	NM	0.52	1.6	0.3	32	64
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	1.3	1.2	--	1.2	0.89	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**

Falciform fat appeared to be infiltrated within the pericardial space. The herniated tissue moves with the beat of the heart. There is no clean separation of the pericardium and the herniated tissue. The four chambers of the heart appear to be normal, yet the heart appears tilted owing to the hernia. No evidence of volume overload.

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **right kidney** presented significant dystrophic changes with infarcts and echogenic remodeling. The right kidney measured 2.85 cm in length.

The **left kidney** presented significant dystrophic changes with infarcts, mineralization, and irregular contour, measuring 3.18 cm.

Blood flow to the kidneys appeared largely adequate.



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**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. Right adrenal gland measured 0.25 cm. Left adrenal gland measured 0.34 cm.

**Spleen**

The **spleen** measured 0.54 cm. It presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**Liver**

The abdominal portion of the **liver** revealed mild vascular congestion of the vena cava and hepatic veins. The visible liver revealed lipogranulomas yet was unremarkable otherwise. The gallbladder and liver appear to be herniated into the thorax. The hernia was approximately 2.3 cm in width.

**Gastrointestinal**

The **stomach** was pulled cranially yet remained abdominal. The ileocecal junction was in a cranial abdominal position. The colon remained abdominal.

**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**ULTRASONOGRAPHIC FINDINGS**

- Tilted or rotated heart owing to pericardial diaphragmatic hernia of at least fat and liver tissue.
- Moderate renal dystrophic changes – possible primary dysplasia with secondary degenerative changes.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Clean surgical separation of the hernia tissue from the pericardium will be challenging in this patient, if attempted. No evidence of cardiac dysfunction. No evidence of volume or pressure overload. From an organ structure standpoint, other than the pericardial diaphragmatic hernia, I'm concerned about long-term viability of the kidneys in this patient. Full urinary workup warranted.

**Radiographs: Pericardial diaphragmatic hernia.**



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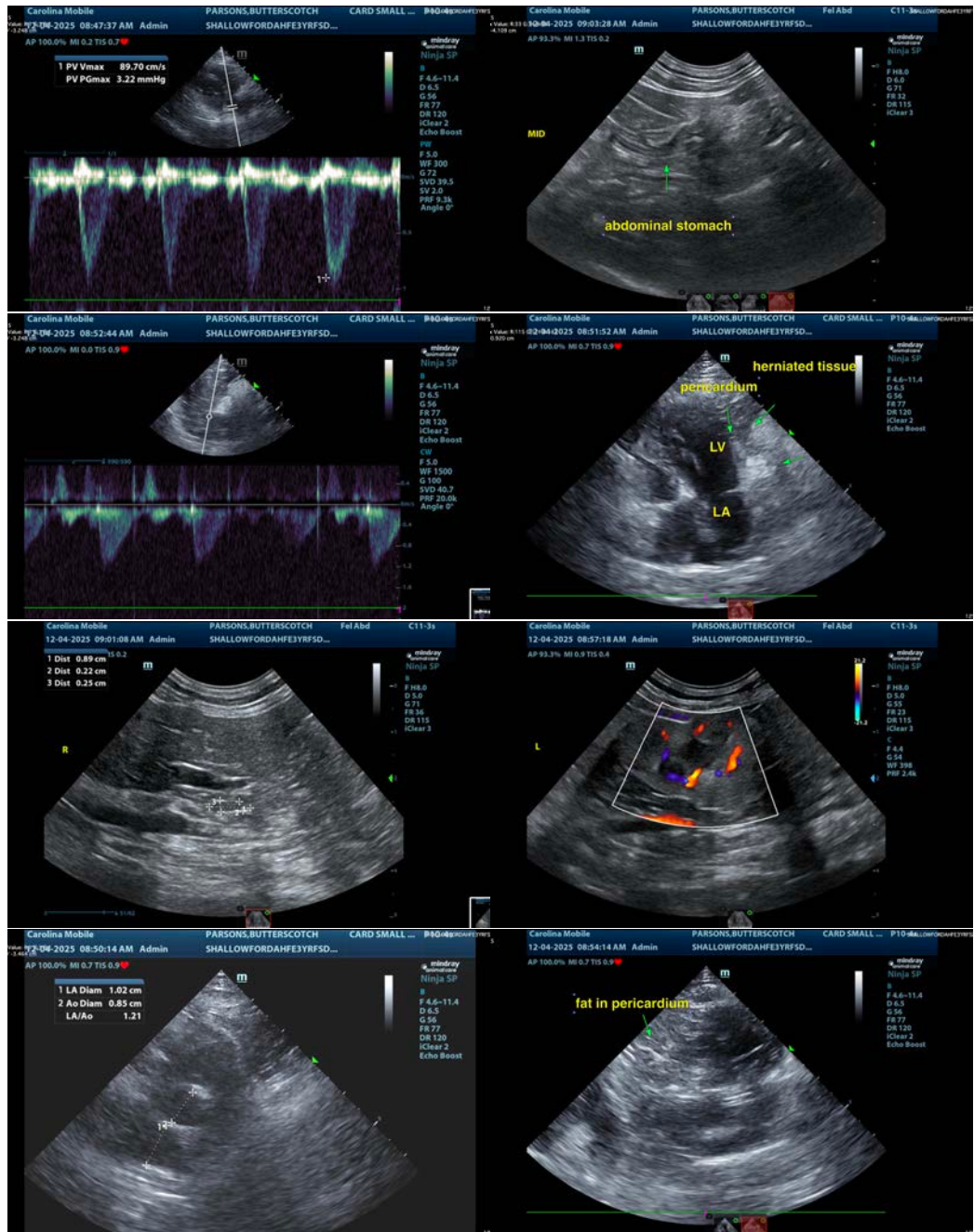
Dr Eads

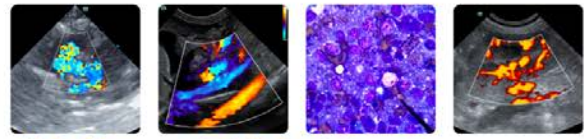
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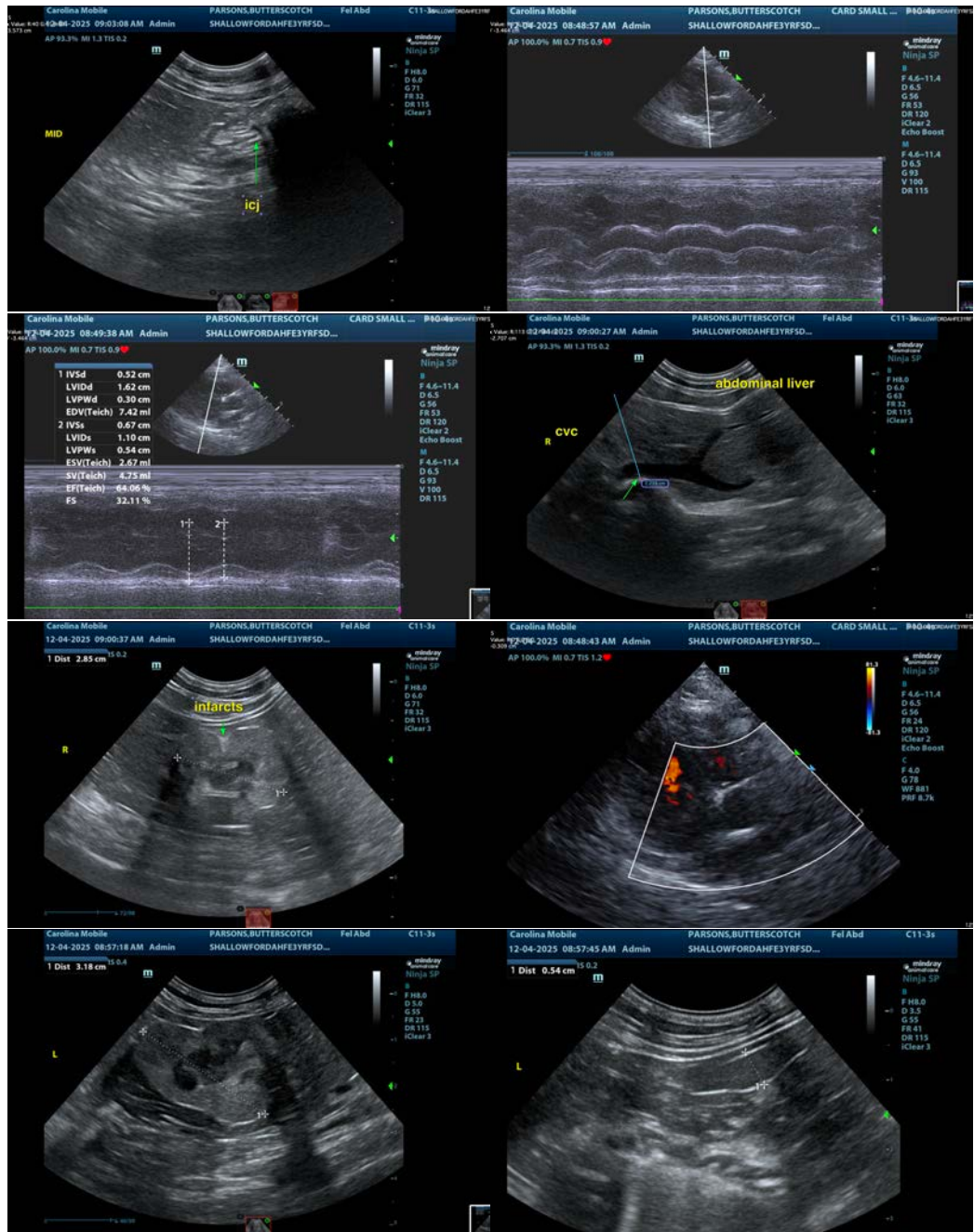
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP(CFM), Cert. IVUSS,  
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