



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Luna Palco
SPECIES Canine
BREED Mix
SEX Spayed female
AGE 1 year
WEIGHT 37.2 lbs

PRESENTING CLINICAL SIGNS
 History: Vomiting, diarrhea - bloody sloughing
 Current meds: Zofran, Unasyn, Famotidine, Metro, Dex,
 Abnormal PE/Chem/CBC/UA Results: HW +, LDH 435 (40-400), Uric acid 136, Lip 109 (15-105), Ck 322 (10-200), GGT 10 (0-10), BUN 31.44 (7.03-26.98), B. Acid 120 (1-12), AST 7658 (0-50), ALT 398 (5-125), RBC 9.5 (5.1-8.5), HGT 71.1 (33-56)

BREED ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented thicknesses with 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 of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. Trivial **tricuspid** insufficiency was noted and not clinically significant. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

INTERPRETED BY

Eric Lindquist, DMV
 DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Valeryia Shumskaya

HOSPITAL NAME

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 VH

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CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.1	1.1	40	80	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LA (2D short axis Base view) (cm)	LVIDd (Avg; 2D and m-mode short axis) (cm)	LVIDs (Avg; 2D and m-mode short axis) (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT		1.18	1.0	37.2 lbs	2.45	3.2	



PATIENT **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Luna Palco

Urinary System

SPECIES

Canine

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 was noted. Ureteral papillae were normal.

BREED

Mix

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 5.45 cm.

SEX

Spayed female

AGE

1 year

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. The right adrenal gland measured 2.05 x 0.84 cm at the cranial pole and 0.55 cm at the caudal pole. The left adrenal gland measured 1.86 x 0.52 cm at the cranial pole and 0.46 cm at the caudal pole.

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Spleen

The **spleen** 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 was noted.

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Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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Gastrointestinal

The **stomach** revealed small shadowing material that measured up to 0.8 cm. The lumen revealed a minor amount of fluid filled lumen and was non-obstructive. Portions of the small intestine appeared to be hyperperistaltic with some reactive mesentery. The colon is unremarkable.

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Pancreas

Luna Palco

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.

SPECIES

Canine

ULTRASONOGRAPHIC FINDINGS

BREED

Mix

Normal echocardiogram with trivial pulmonic insufficiency, not clinically significant.

Enteritis pattern with small shadowing material in the stomach.

SEX

Spayed female

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Treatment for gastroenteritis, enterotoxins and parasites are all indicated. Structurally the liver appears normal. This is a reactive hepatopathy. A recheck sonogram is recommended in 48-72 hours if the patient is not improving.

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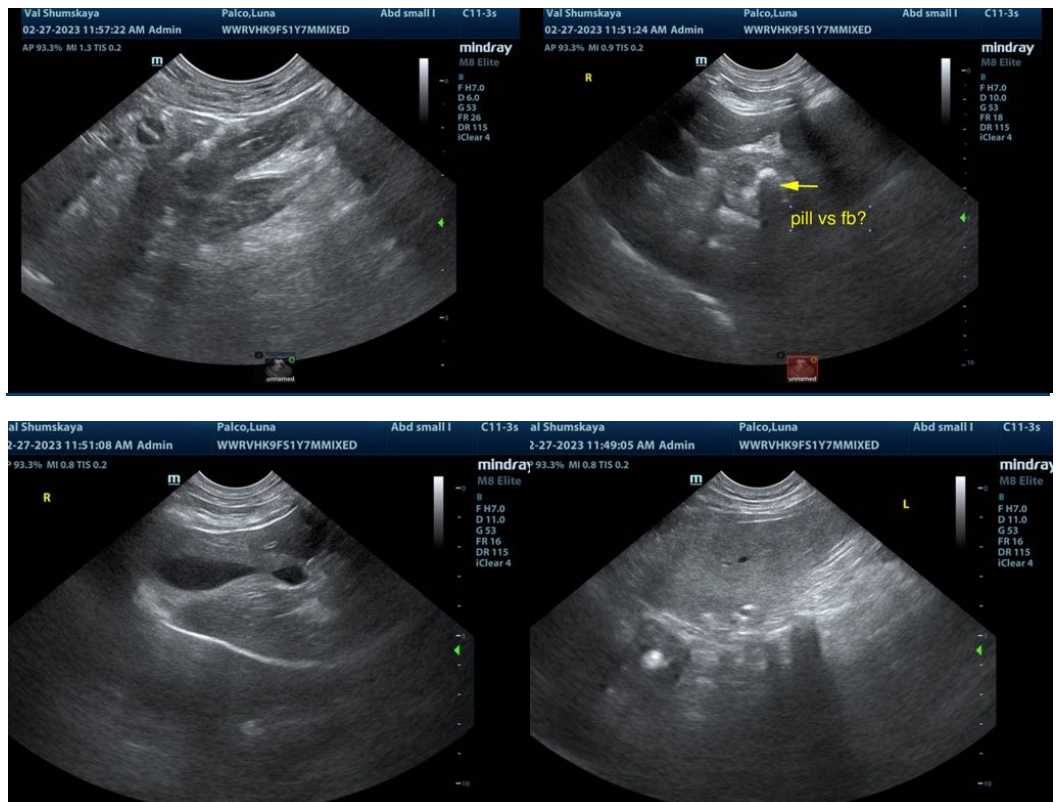
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PATIENT

Luna Palco

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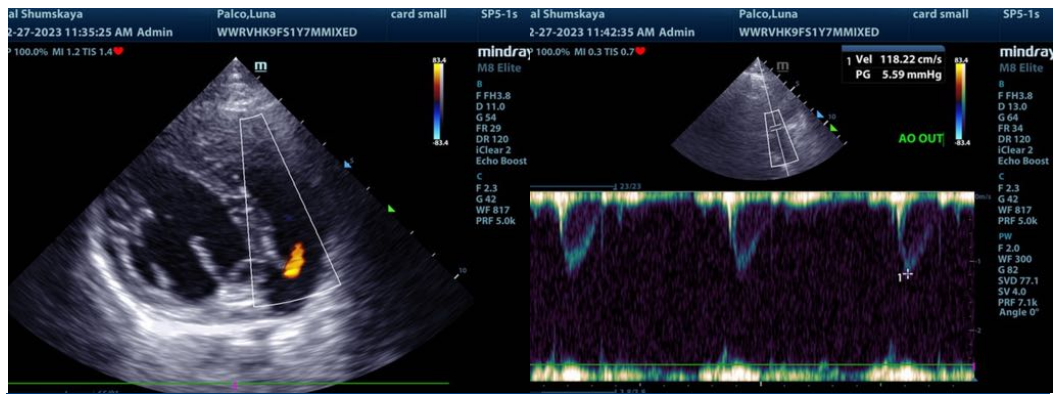
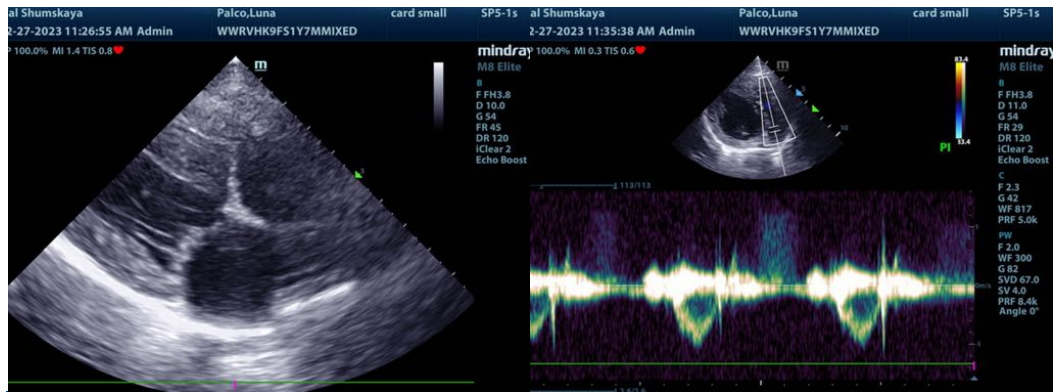
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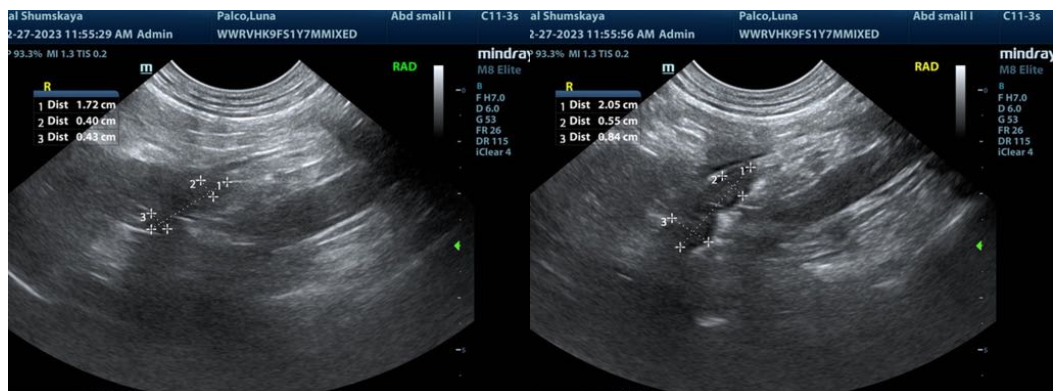
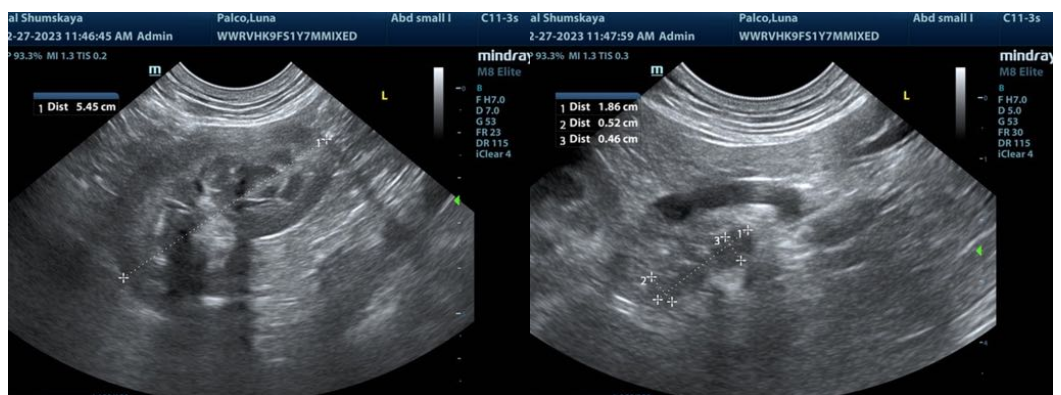
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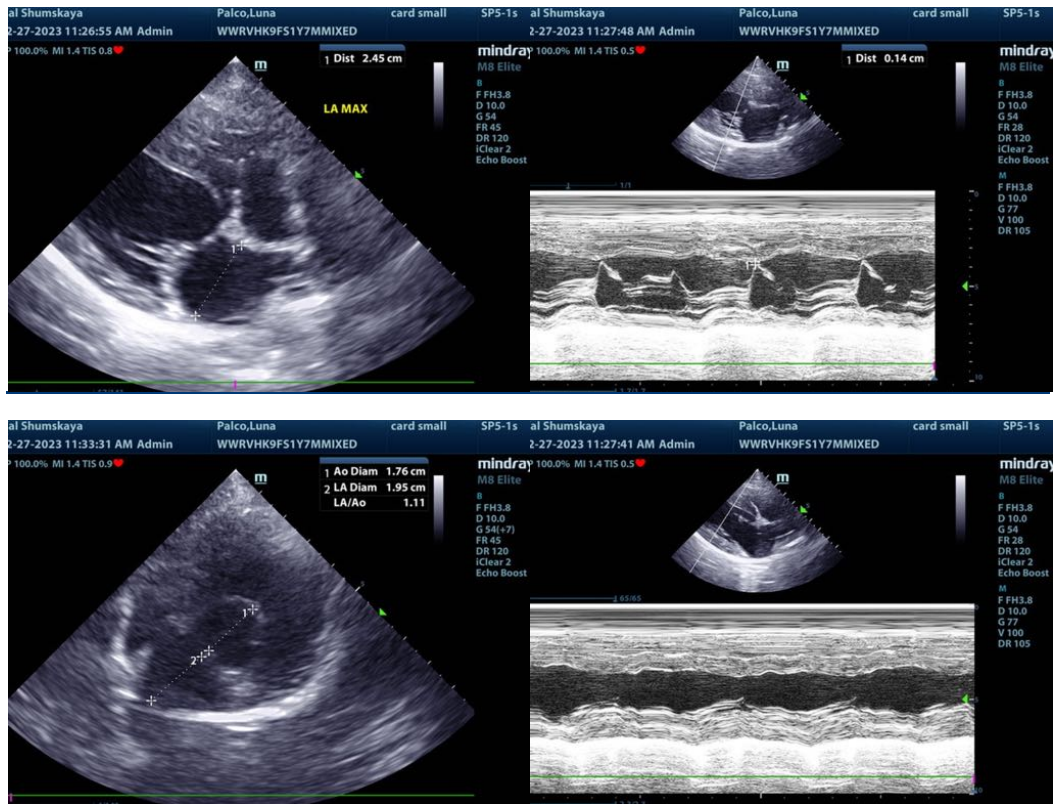
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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