



**PATIENT**

Cali Hart

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

Spayed Female

**AGE**

15 years

**WEIGHT**

10.2 lbs

**PRESENTING CLINICAL SIGNS**

History: New heart murmur noted on exam, and bloodwork run at that time to monitor CRF showed hypercalcemia. Doing well on diet for CRF. In 2018, full chain mastectomy on R side for cystic adenocarcinoma, fully excised, no sign of metastasis at that time. History of pancreatitis as well. Abnormal PE/Chem/CBC/UA Results: PE: BCS 5/9, systolic heart murmur. SDMA 25, BUN 54, Creat 2.0 (creeping up: Creat 1.9 in 10/20, Creat 1.4 in 8/20). Ca 11.3, Alb 3.4, Phos 4.6. Hypercalcemia of malignancy panel drawn today.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal 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 and angles 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 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 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.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Ebersole

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. Lane

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FELINE CARDIAC PARAMETERS	BODY WEIGHT	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	10.2 lbs	225	0.48	1.25	0.49	58	91
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	1.15	1.28	0.96	1.0	1.26	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							



**PATIENT** **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Cali Hart **Urinary System**

**SPECIES** The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. A tubular structure that measured approximately 2.0 x 1.0 cm was noted in the region dorsal to the urinary bladder near the uterine stump. The uterine stump was identified and normal. This may be residual ureteral dilation and stricture; however, it does not appear to be pathological.

Feline

**BREED** The uterine stump was identified as a separate structure and measured 0.3 cm in width.

Domestic Shorthair

The **kidneys** were normal to subnormal in size with moderate remodeling. Corticomedullary mineralization was noted along with parenchymal changes with infarcts. The left kidney measured 2.17 cm. The right kidney measured 3.15 cm. Blood flow to the kidneys were significantly subnormal.

**SEX**

Spayed Female

**Adrenal Glands**

**AGE**

15 years

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 left adrenal gland measured 0.53 cm. The right adrenal gland measured 0.55 cm.

**WEIGHT**

10.2 lbs

**Spleen**

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

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.

**IMAGING PERFORMED BY**

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**Liver**

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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**

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**PATIENT**

**Pancreas**

Cali Hart

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

**SPECIES**

Feline

**BREED**

**ULTRASONOGRAPHIC FINDINGS**

Domestic Shorthair

Subjectively end stage degenerative renal disease with infarcts. Moderate to severe on the left and moderate on the right.

**SEX**

Prominent, chronic pancreatic changes.

Spayed Female

Otherwise, geriatric abdomen.

**AGE**

Normal echocardiogram, likely flow murmur.

15 years

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**WEIGHT**

The kidneys are the primary concern issue in this patient as far as long term viability. There was no evidence of metastatic disease.

10.2 lbs

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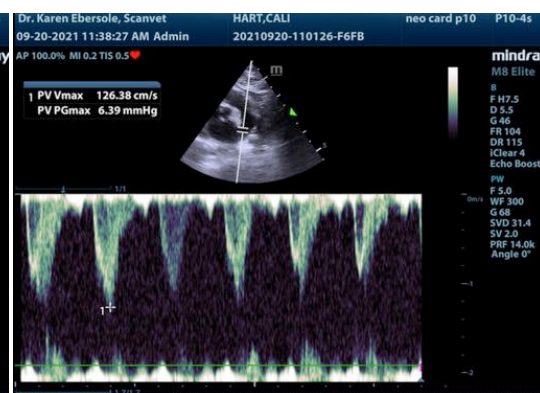
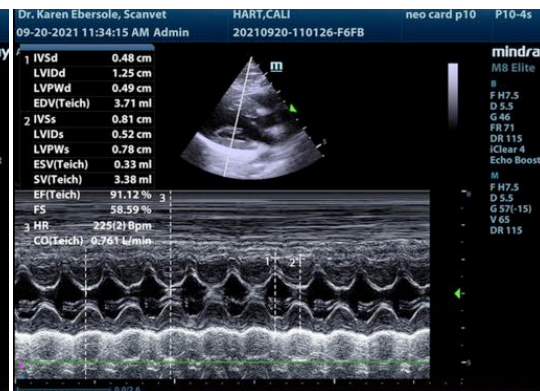
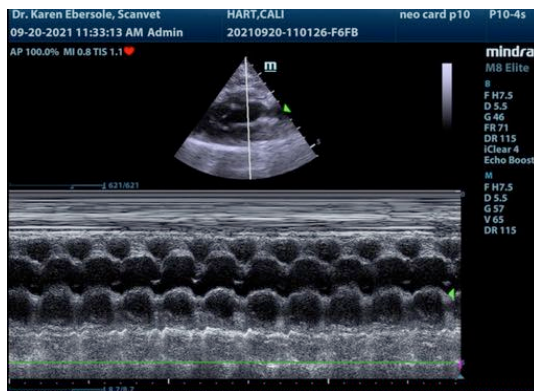
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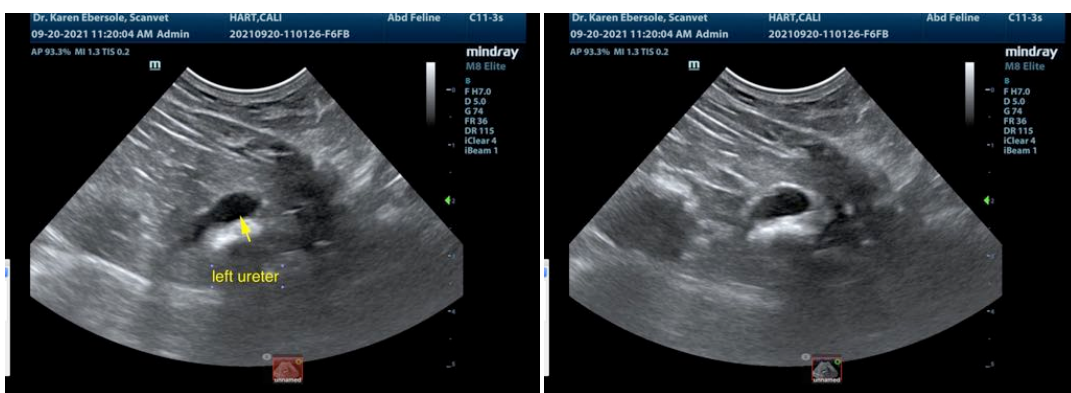
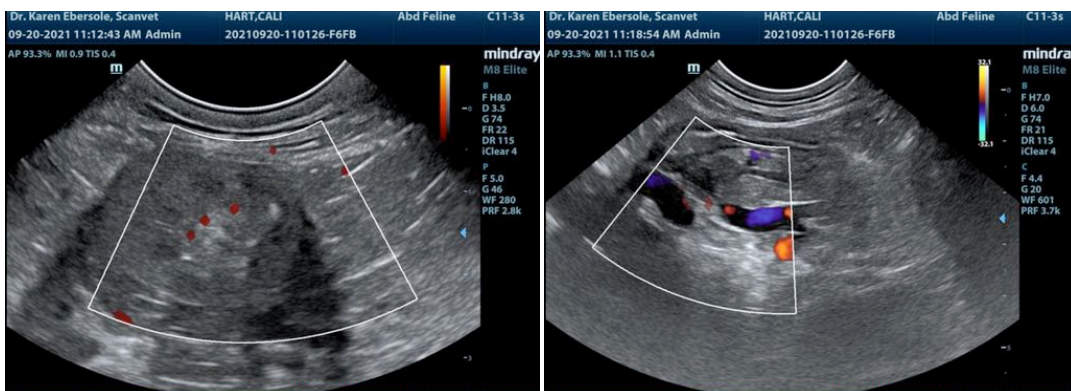
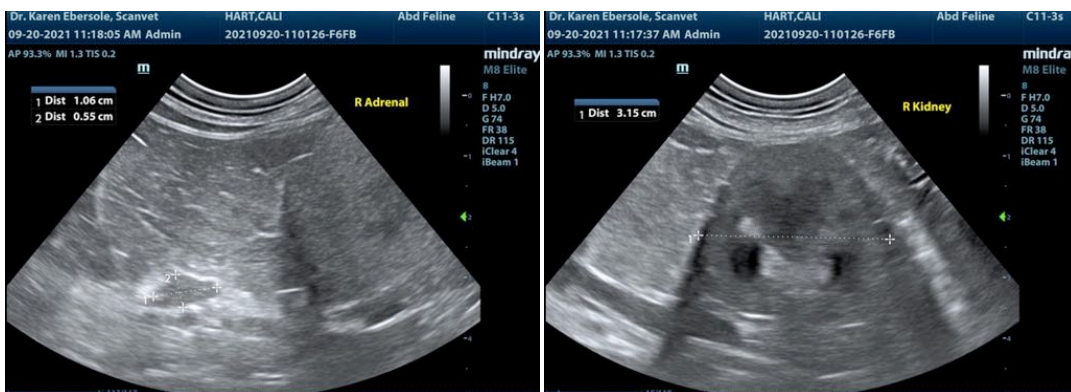
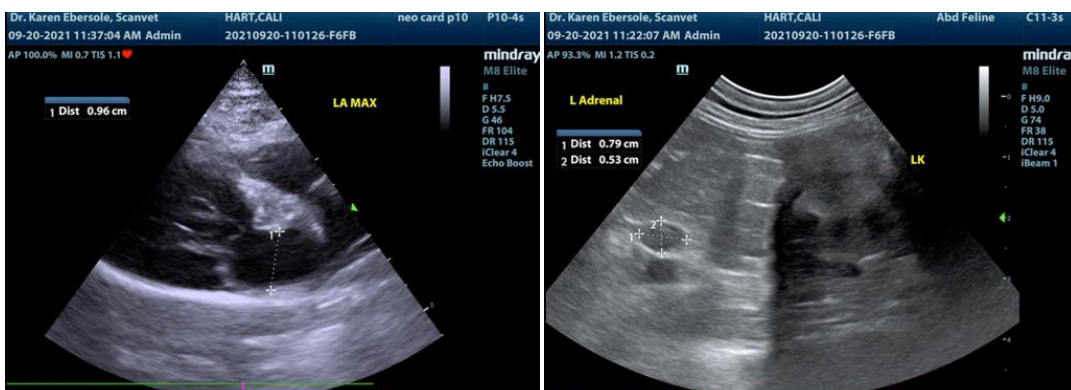
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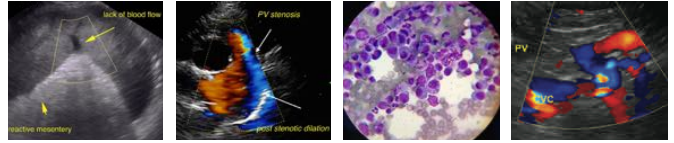
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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info@SonoPath.com