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Clinical Sonography & Telecytology
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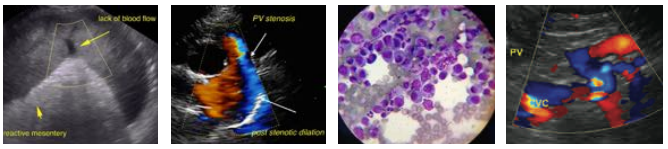


PATIENT
Nikko Quant

SPECIES
Feline

BREED
Domestic Shorthair

SEX
Neutered male

AGE
12 years

WEIGHT
13 lbs

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Jenn

HOSPITAL NAME
Rockaway AH

REFERRING VET
Dr.Maniar

INVOICE
30098

DATE
5/3/22

PRESENTING CLINICAL SIGNS

History: severe thyroid toxicity, gastroenteritis, vomiting

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. Tachycardia was noted.

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	13 lbs	NM					

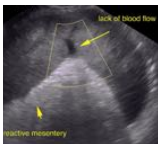
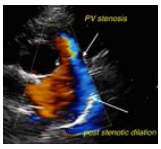
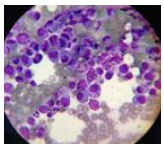
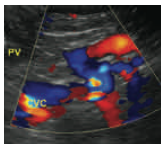
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60
PATIENT	1.15		1.4		1.04	NM

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

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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

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was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The left **kidney** was dystrophic, subnormal in size and fibrotic. The left kidney measured 1.94 cm. Blood flow was essentially non existent to the left kidney and is likely non-functional. Mineralization was noted in the left kidney as well. The right kidney revealed a chronic interstitial nephrosis pattern with infarcts and remodeling measuring 4.68 cm. This is consistent with compensatory hypertrophy. The blood flow to the right kidney was mildly subnormal.

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.

Spleen

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. These changes are consistent with normal age-related alteration. Hyperechoic lipogranulomatous nodules were noted. The capsule was smooth without noticeable impingement from within the spleen or from pathology in the adjacent abdomen. The splenic vasculature demonstrated normal volume without signs of congestion or significant contraction. No evidence of active acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** revealed an extensive, right cranial cystic mass that deviated the gallbladder caudally. This is most consistent with cystadenoma with the possibility of biliary carcinoma. This is not resectable. 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.

Gastrointestinal

The **gastrointestinal tract** revealed minor variable thickening and echogenic submucosal changes most consistent with low grade end result of chronic GI disease such as IBD and may be related to malassimilation of nutrients if any weight loss is present. No obvious neoplastic patterns were noted and luminal content as unremarkable.

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.

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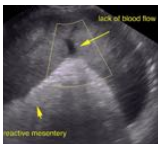
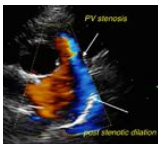
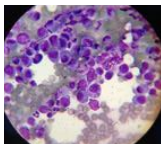
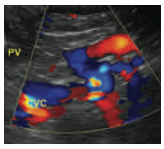

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ULTRASONOGRAPHIC FINDINGS

Biliary cystadenoma or biliary carcinoma.

Mass in the right cranial liver, non-resectable.

Subjectively end stage renal disease with severely dystrophic left kidney.

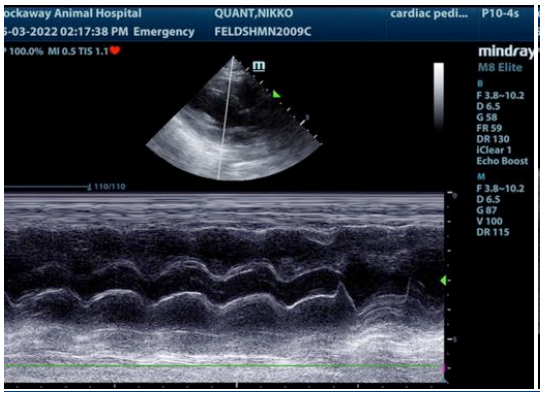
Moderate degenerative right renal changes with interstitial nephrosis pattern with infarcts.

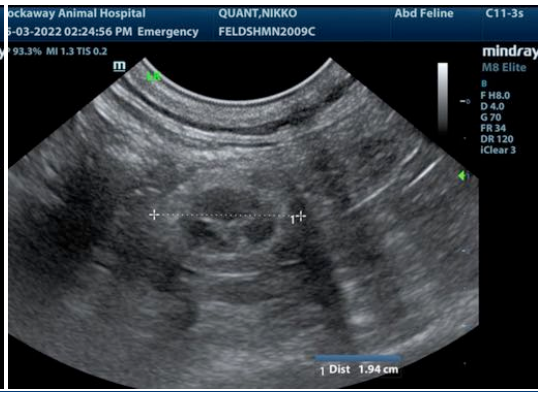
Structurally unremarkable GI tract.

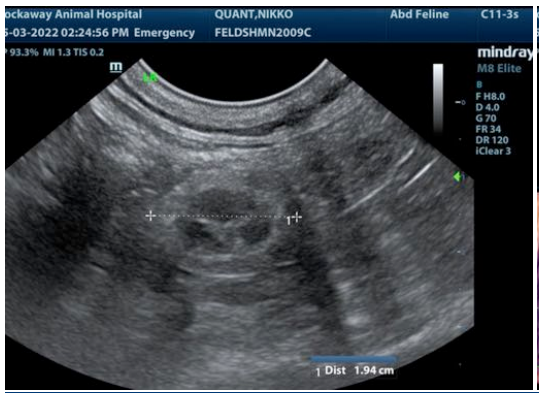
Normal echocardiogram.

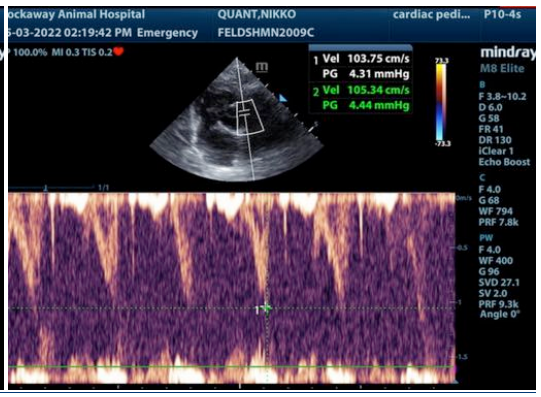
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

IV fluid support, full urinary work-up is warranted along with reassessment of the clinical status. Guarded long term prognosis mainly from the renal presentation standpoint.









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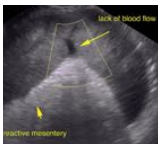
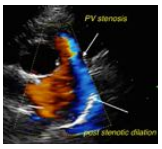
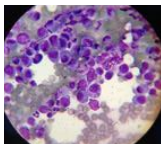
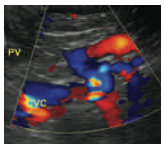

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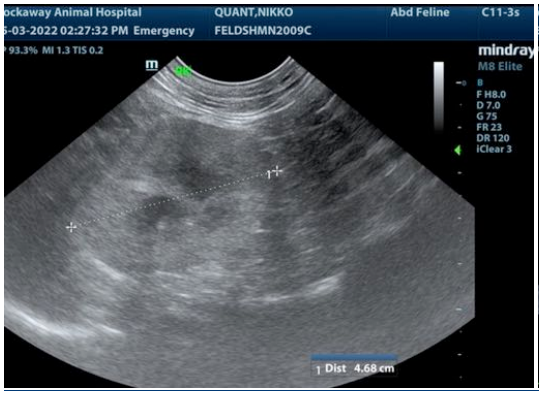

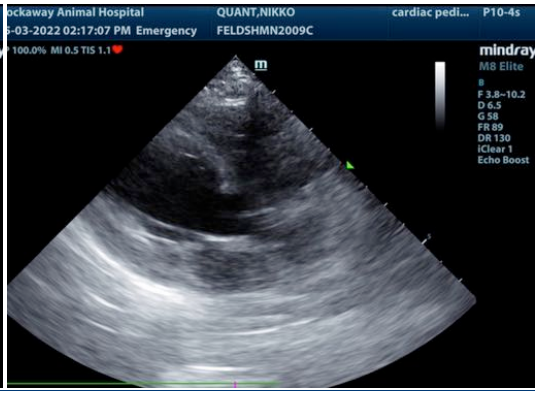

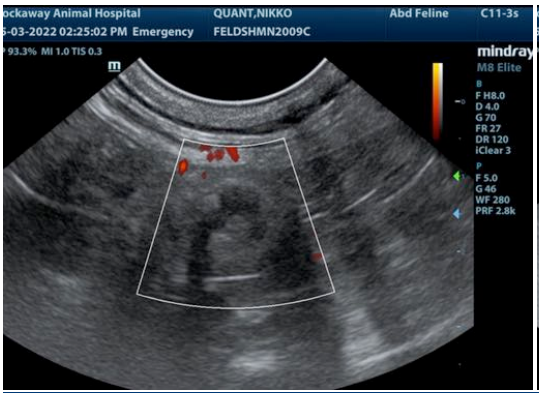

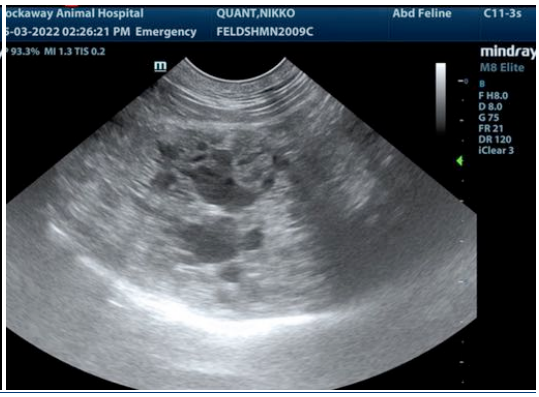

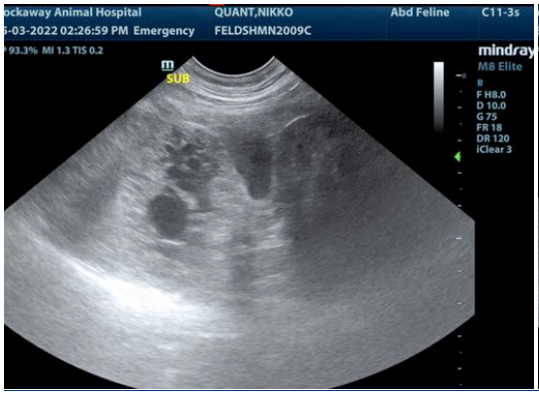

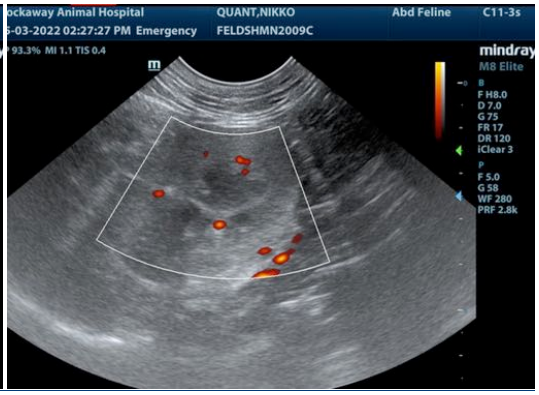

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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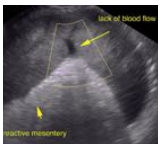

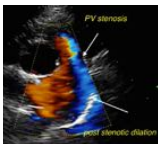

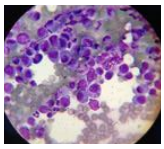
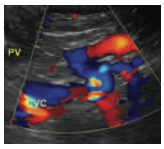

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