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Clinical Sonography & Telecytology
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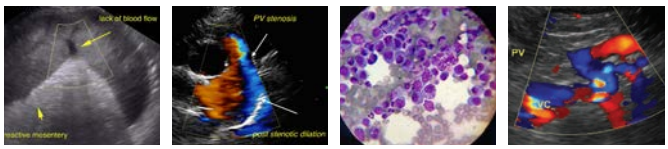


PATIENT
Cosmo Malone

SPECIES
Canine

BREED
Mixed

SEX
Intact Male

AGE
3.5 Years

WEIGHT
53 Pounds

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Marsh Hospital for Animals

REFERRING VET
Dr. Altieri

INVOICE
33169

DATE
12/2/21

PRESENTING CLINICAL SIGNS

Patient presents for anorexia, weight loss x 3 weeks. Very weak, dribbling urine. Emaciated body condition, dehydrated doughy abdomen, tracheal sensitivity, uremic breath. Bloods pending. Loss of abdominal detail on rads.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.0	1.1	28	54	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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				
PATIENT	84	1.64	1.10		3.57	3.47	

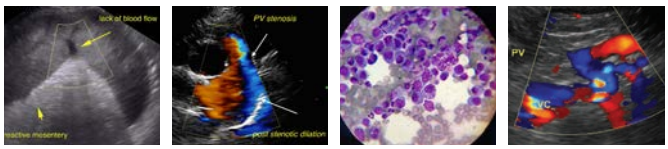
Cardiac Presentation

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 concentric hypertrophy with normal contractility and internal volume. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. 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.

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 **prostate** was uniformly enlarged with lobar swelling appeared to impinge upon the urethra and mildly deviate the descending colon. The prostatic tissue was hyperechoic containing focal areas of decreased echogenicity. Edema lines noted in the prostate, consistent with prostatitis. These changes are suggestive of either chronic inflammatory episodes, benign cystic pathology or both. Underlying neoplasia cannot be completely ruled-out but is lower on the differential list. This presentation is most



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consistent with benign prostatic hyperplasia with possible active prostatitis. Neutering or off-label Finasteride (Propecia) (0.1-0.5 mg/kg Sid) treatment is indicated +/- FNA or prostatic wash cytology and culture. The prostate measured 4.3 cm. The testicles were imaged and found to be uniform.

The **kidneys** were swollen and presented hypervascular cortices. The kidneys measured 9.19 cm each.

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 2.39 cm x 1.03 cm at the cranial pole and 0.94 cm at the caudal pole. The left adrenal gland measured 2.92 cm x 0.4 cm at the caudal pole and 0.46 cm at the cranial pole.

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 were noted.

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.

Gastrointestinal

The **gastric** wall was thickened with hypertrophied mucosa, consistent with uremic gastritis. The small intestine and colon were 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.

ULTRASONOGRAPHIC FINDINGS

- Concentric left ventricular hypertrophy, possibly owing to hypertension
- Suspect renal failure
- Concurrent uremic gastritis
- Concurrent prostatitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Blood pressure measurements warranted. Presuming this patient is under renal failure, acute renal insult such as Leptospirosis, toxin exposure or similar should be expected. Lyme nephritis is also a potential. 72-hour IV fluid protocol, Ampicillin, Metronidazole, GI protectants, broad-spectrum antibiotics all indicated. Anti-hypertensives may be necessary if systolic pressure is >160. Very guarded prognosis. Further diagnostics should be based on CBC/Chem/UA results.

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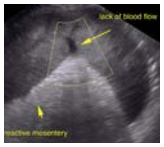
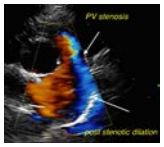
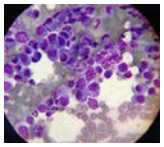
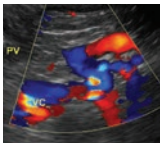

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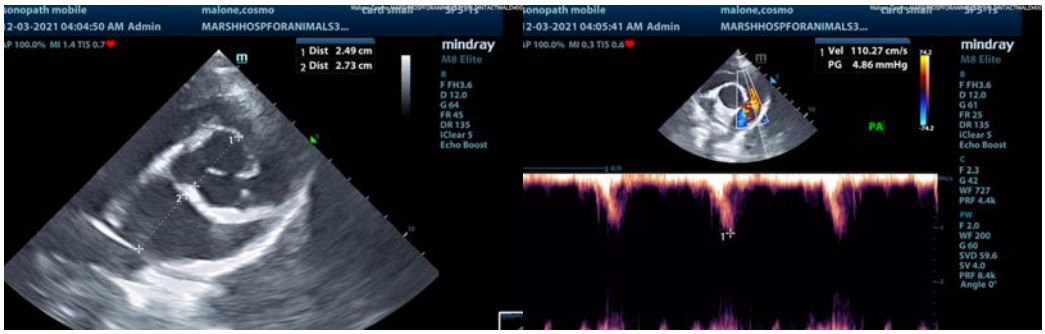

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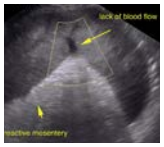
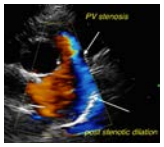
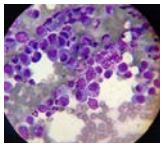
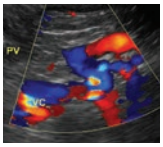

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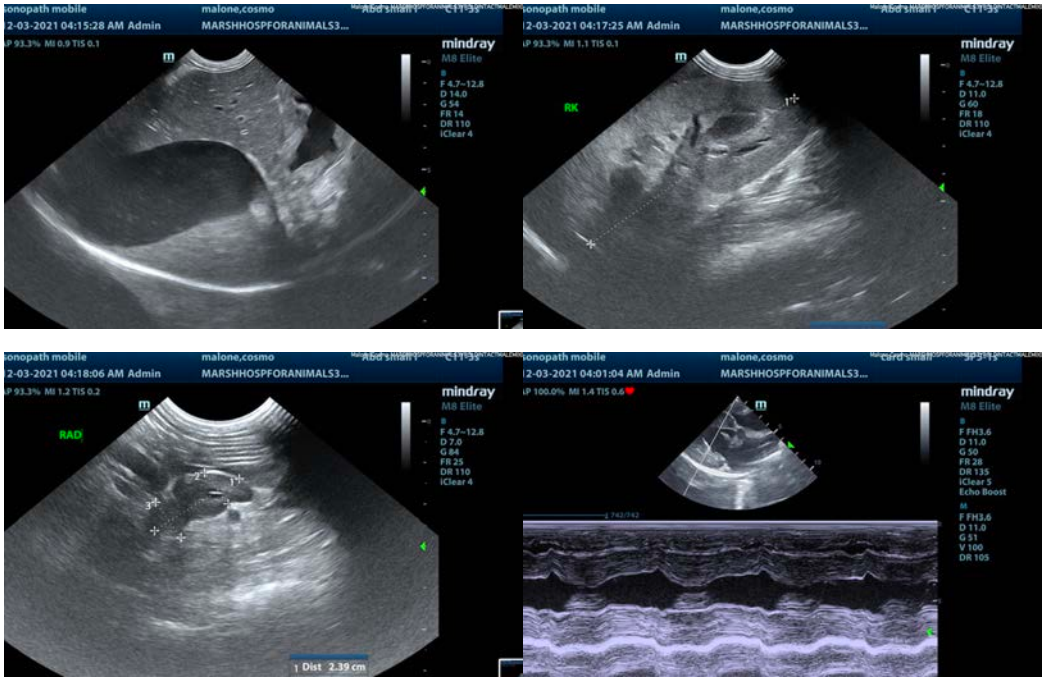

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com