



PATIENT

Gibbs Bennett

PRESENTING CLINICAL SIGNS

History: Chronic hypercalcemia, check for abd. mass / splenic mass
Abnormal PE/Chem/CBC/UA Results: 2/1/22 calcium 12.3

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Cockapoo

The **urinary bladder**, revealed a grouping of calculi that measured 1.9 cm. The bladder revealed a chronic cystitis pattern with a 1.12 cm wall thickness with apical ventral wall thickening. This appears to eventually be resectable. Assessment for UTI is warranted. There is a minor potential for underlying carcinoma.

SEX

Neutered male

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 7.01 cm. The left kidney measured 6.76 cm.

AGE

12 years

WEIGHT

64 lbs

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 3.15 x 0.57 cm at the caudal pole and 0.69 cm at the cranial pole. The left adrenal gland measured 3.09 x 0.8 cm at the cranial pole and 0.66 cm at the caudal pole.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

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. 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.

IMAGING PERFORMED BY

Jessica Miller, RDMS

HOSPITAL NAME

Animal Care Center of
Flanders

REFERRING VET

Dr. Villari

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 revealed excessive debris and over distension. This is consistent with emerging mucocele. The common bile duct revealed excessive debris and dilation measuring 1.4 cm.

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Gastrointestinal

SPECIES

Canine

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.

BREED

Cockapoo

Pancreas

SEX

Neutered male

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.

AGE

12 years

Free Abdomen

A superficial subcutaneous mass was noted. This appears to be of lipomatous origin; however, a 1.0 cm, hypoechoic area was present in the center of the mass. FNA of this portion of the mass is recommended.

WEIGHT

64 lbs

Thyroid

The right thyroid gland revealed a hypoechoic 0.46 cm expansive nodule that is consistent with parathyroid adenoma and is localized at the mid body of the right thyroid lobe. The right thyroid lobe measured 2.96 x 0.51 cm and was otherwise unremarkable. The left thyroid lobe was uniform and measured 2.26 x 0.42 cm.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

IMAGING PERFORMED BY

Jessica Miller, RDMS

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. Complete filling of the left atrium was noted on color flow assessment. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

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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	<1.3	28-40	40-100	<0.6
PATIENT	5.3		1.2	1.13	40	72	0.1
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				
PATIENT	118		1.1	64 lbs	4.2	3.43	

WEIGHT

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ULTRASONOGRAPHIC FINDINGS

Right medial parathyroid adenoma, likely cause of primary hypercalcemia if hypercalcemia panel fits primary hyperparathyroidism.

Bladder calculi and chronic cystitis pattern.

Age related kidneys with mineralization, non-obstructive.

Emerging gallbladder mucocele.

No evidence of splenic masses.

B1 valvular disease.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Cystotomy and apical ventral partial cystectomy would be ideal. Justification of cholecystectomy and common bile duct lavage could be performed as the gallbladder is significantly over distended and mucoduct is evident. I cannot completely rule out a bile duct tumor in this patient; however, no color flow uptake was noted in the echogenic debris within the common bile duct. Therefore, common bile duct mucocele and mucoduct is suspected. Surgical intervention is ideally given the convenience of the procedure.

Right thyroidectomy is of primary concern; however, cystotomy and partial apical cystectomy, cholecystectomy and common bile duct lavage is also necessary. There is no overt anesthetic risk in this patient.

Chest radiographs are warranted if not already performed to assess for related disease in the cranial mediastinum.



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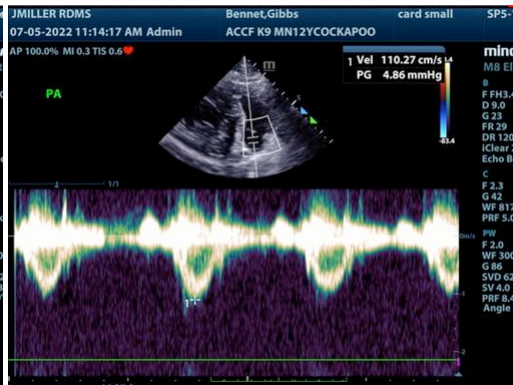
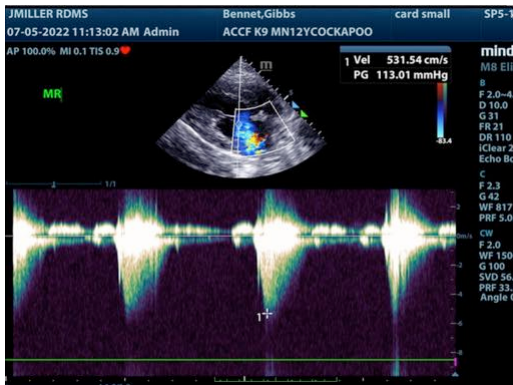
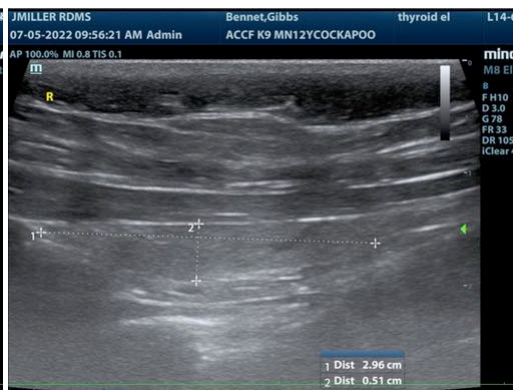
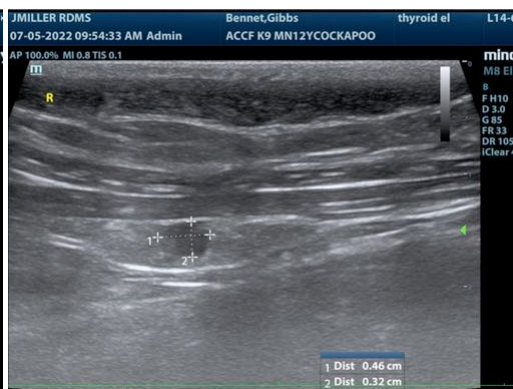
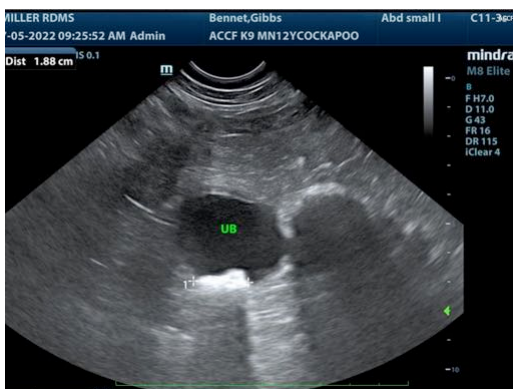
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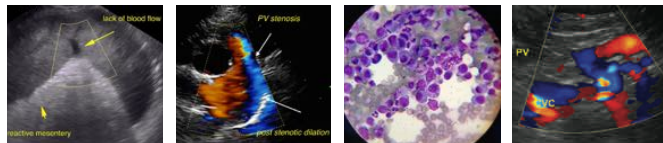
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B1: The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflurane maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.





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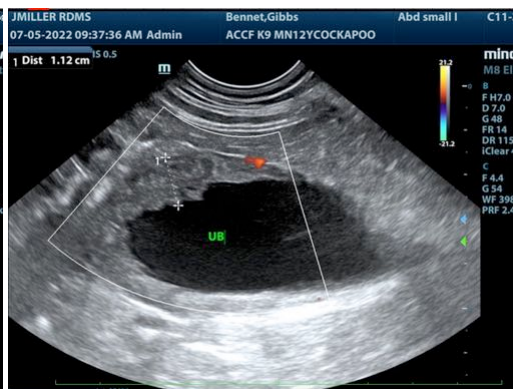
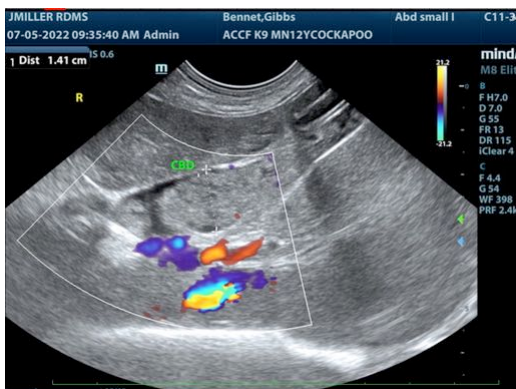
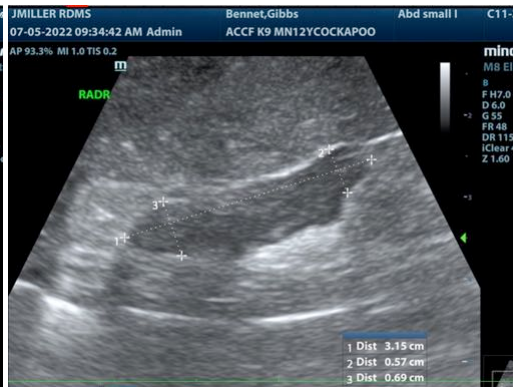
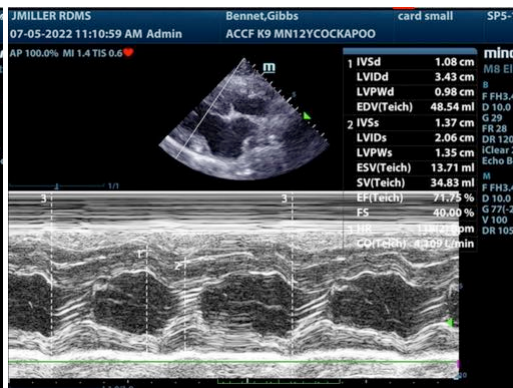
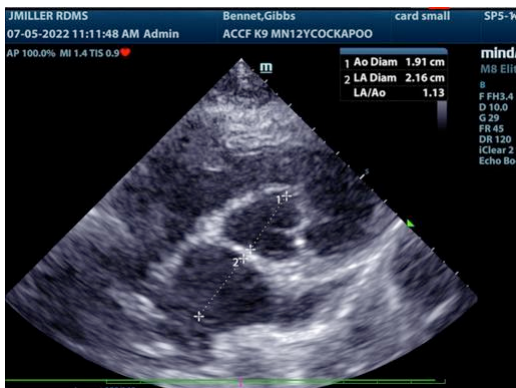
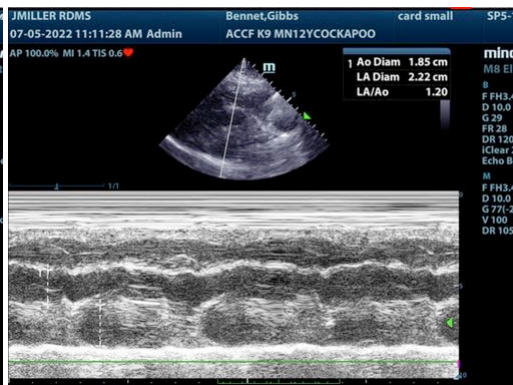
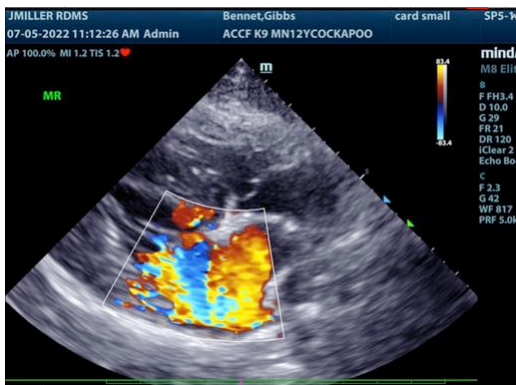
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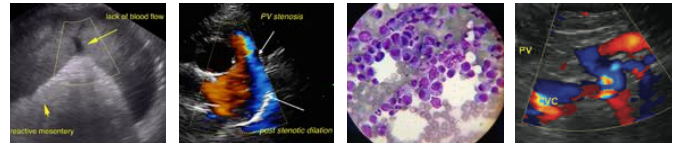
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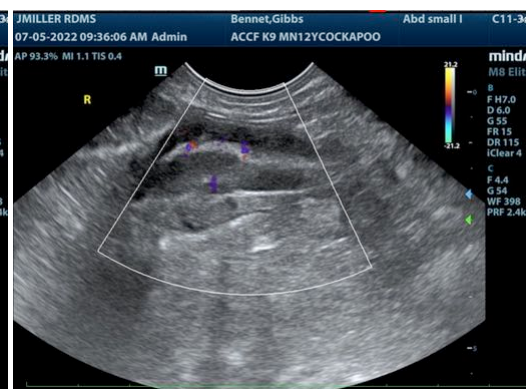
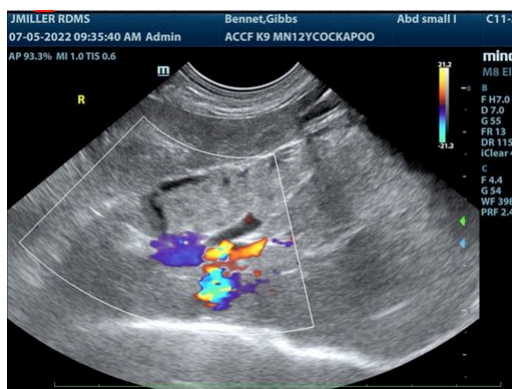
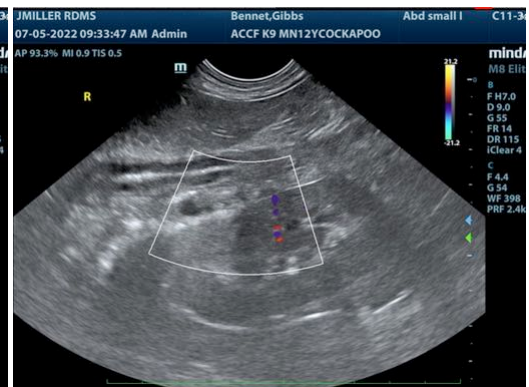
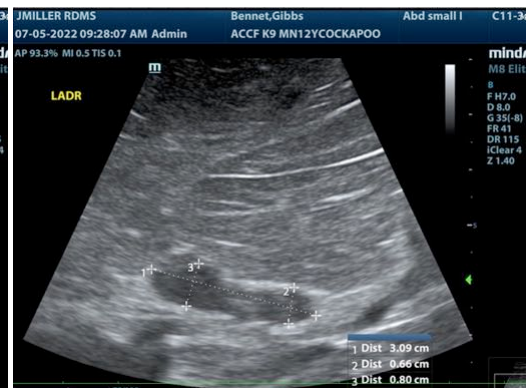
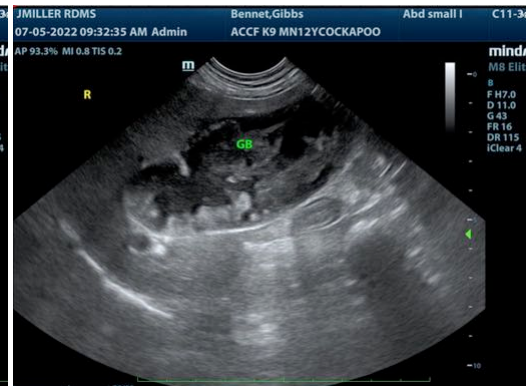
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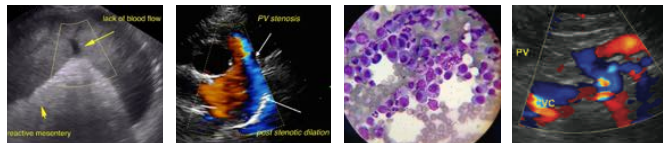
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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.

BREED

Cockapoo

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

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