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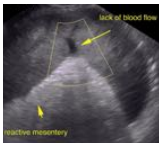

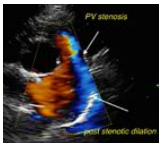

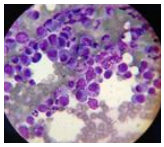
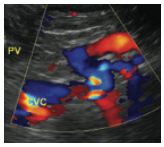

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1-800-838-4268 info@sonopath.com

PATIENT

Delilah Harshey

SPECIES

Canine

BREED

Chinese Pug

SEX

Spayed female

AGE

14 years

WEIGHT

18.3 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Amanda Crook SDEP Certified Clinical Sonographer

HOSPITAL NAME

Rivers Edge Pet Medical Center

REFERRING VET

Dr. Gray

INVOICE

31667

DATE

7/14/22

PRESENTING CLINICAL SIGNS

Acute presentation of lethargic/unable to use back legs, weak; decreased eating, P presented flat out; history of UTI - on Proin and Incurin for incont. -- currently on oral enrofloxacin abx from rDVM Abnormal PE/Chem/CBC/UA Results: See attached labwork - Low glucose, elevated BUN/CRE, Low PCV, Elevated WBC See attached radiographs - abnormal cardiac sil, large bladder stones, loss of detail in front of the abdomen.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction and appeared normal. The ureters were not visible which is normal. The bladder revealed multiple calculi. The largest of which measured 2.0 cm and was non-obstructive at the time of the sonogram. Suspended debris was also noted in the bladder. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and 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. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Cortical remodeling, infarcts and mineralization were noted in both kidneys. The left kidney measured 4.4 cm. The right kidney measured 4.74 cm.

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 left adrenal gland measured 1.75 x 0.46 cm at the cranial pole and 0.46 cm at the caudal 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 was noted.

Liver

The **liver** revealed slightly increased portal markings and minor irregular contour. The gallbladder and common bile duct were unremarkable.

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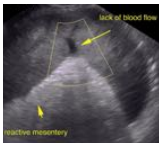
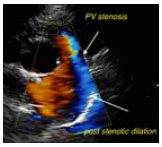
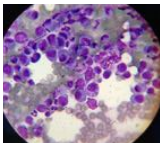
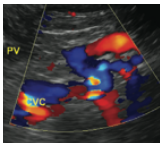

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Gastrointestinal

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. The colonic wall was slightly thickened and measured 0.62 cm. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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 EXAMINATION OF THE HEART

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, without significant **tricuspid** regurgitation, and normal **right atrial** size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickiwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. The **left atrium** and **left ventricle** appeared volume contrated. The **mitral valve** revealed insufficiency. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. No evident arrhythmic activity was noted during the exam.

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			0.9	1.0	39	73	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	BELOW	BELOW	BELOW	BELOW
PATIENT	100	1.12	0.61	18.3 lbs	1.3	1.75	

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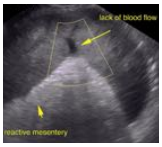
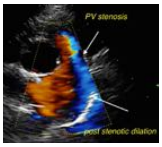
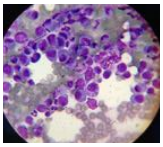
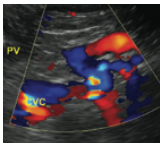

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ULTRASONOGRAPHIC FINDINGS

Compensated stage B1 valvular disease with minor cor pulmonale presentation.

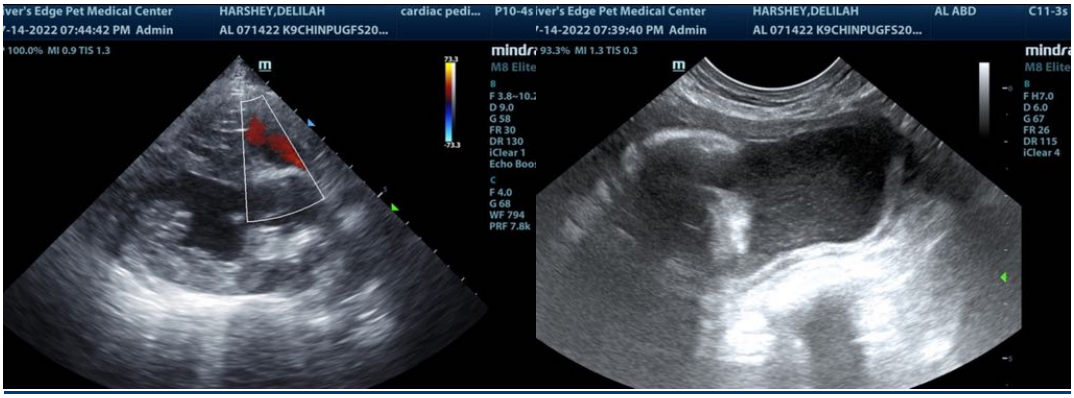
Multiple bladder calculi and suspended debris, non-obstructive at the time of the sonogram.

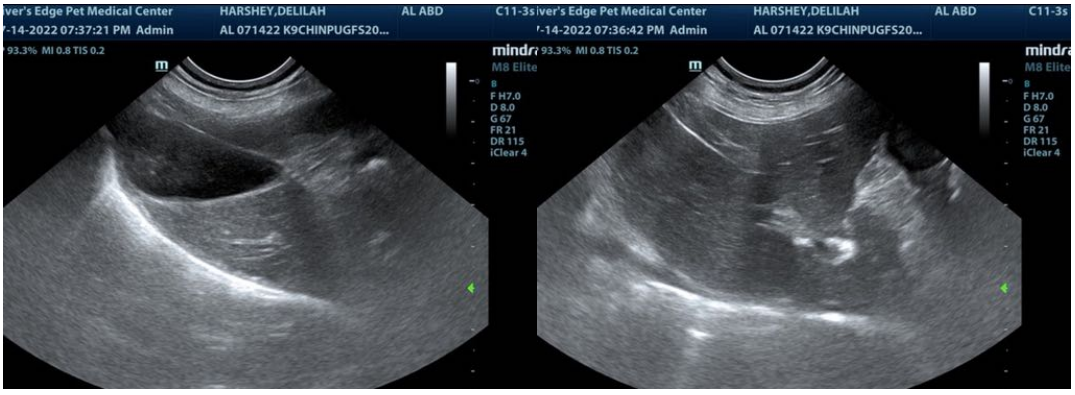
Mild degenerative renal changes with calculi. Moderate on the right and minor on the left.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Comorbidities are likely playing a role in this patient as the calculi are non-obstructive. An acute on chronic presentation is likely in this patient. Leptospirosis is a strong potential. Sepsis is a potential with a low glucose. IV fluid support, plasma expanders, ampicillin, and Metronidazole combination is recommended as well as blood pressure measurements. Bladder calculi may be incidental; however, recent passage of calculi may be playing a role. The calculi would not explain the entire clinical profile. Assessment for clinical shock is also indicated.

Insulin glucose profile is warranted as well as hepatic FNA. There is no evidence of insulinoma from a structural standpoint, yet cannot be completely ruled out. Stabilization of the liver and renal presentation is warranted and once stabilized eventual cystotomy and stone analysis is recommended.





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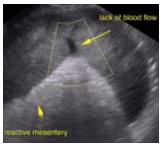
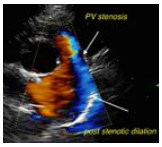
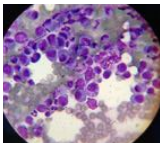
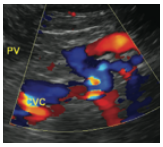

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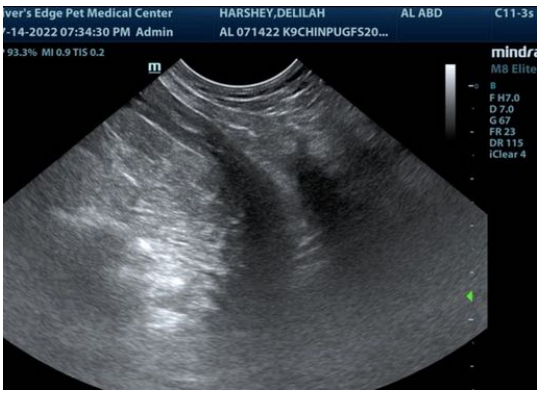

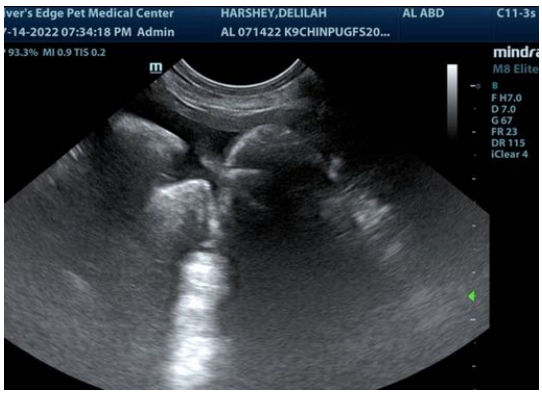

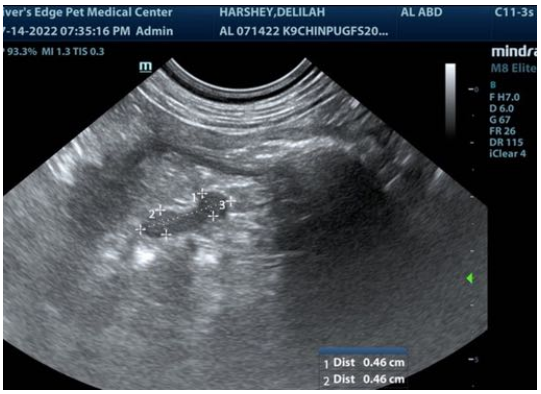

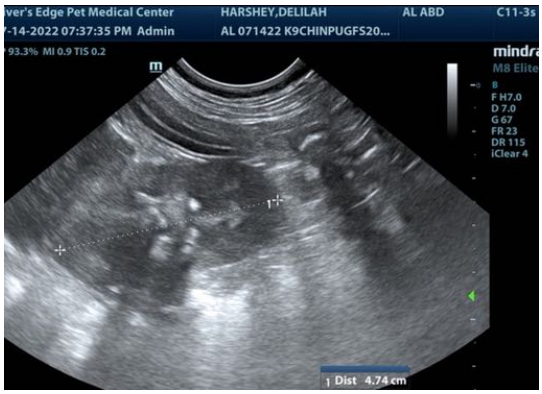

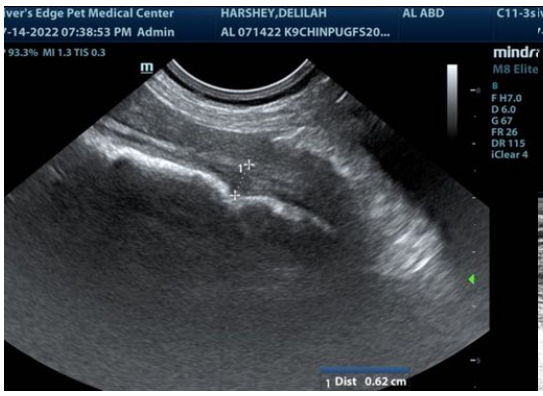

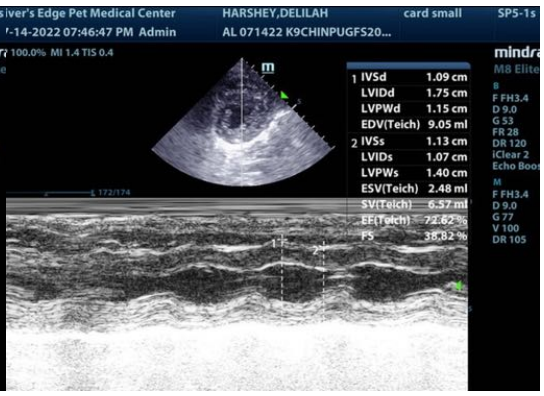

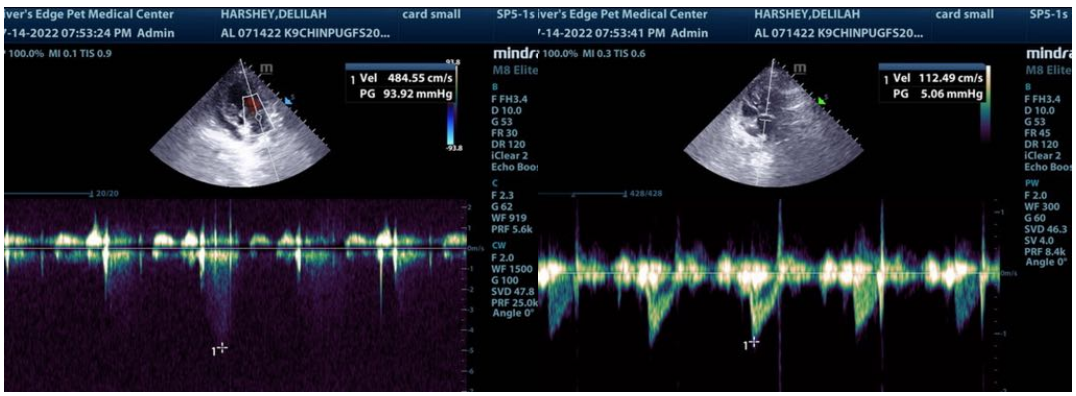

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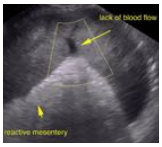
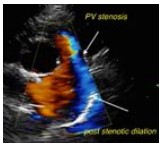
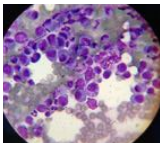
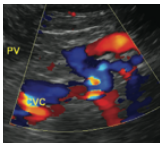

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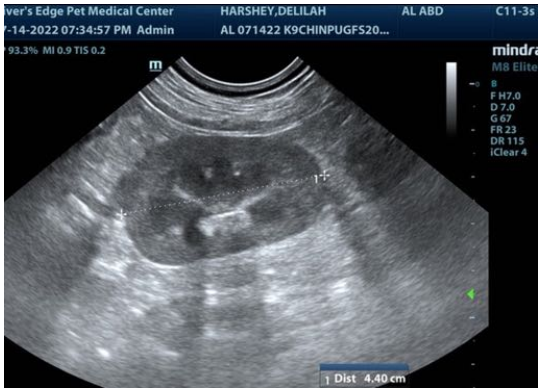

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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