



PATIENT PRESENTING CLINICAL SIGNS

Sophie Battista Ascites, heart murmur, Diabetic on insulin. ALP 2519, increased WBC

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Canine **Urinary System**

BREED The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra were normal.

SEX

Spayed Female

AGE

13 years

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.

INTERPRETED BY

Eric Lindquist, DMV
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IMAGING PERFORMED BY

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Adrenal Glands

The **adrenal glands** appeared slightly enlarged and swollen. No evidence of focal capsular expansion or invasion into the phrenic veins was noted. No overt suspicion of neoplasia was noted. This is considered likely a hyperplastic change associated with stress or adrenal endocrinopathy (PDH). If isosthenuria is persistently present and the patient morphologically suggests Cushing's disease then ACTH testing would be indicated. The right adrenal gland measured 2.21 x 1.11 cm at the cranial pole and 0.75 cm at the caudal pole. The left adrenal gland measured 2.24 x 0.6 cm.

HOSPITAL NAME

Franklin Lakes AH

Spleen

The **spleen** was mildly heterogenous and slightly irregular at the midbody measuring up to 1.6 cm in width.

REFERRING VET

Dr. Kozak

Liver

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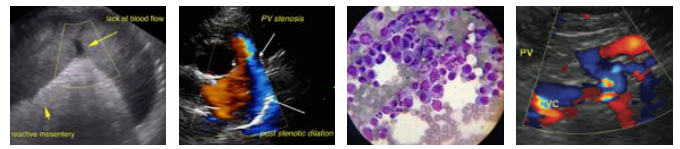
The **liver** was swollen and heterogenous with dilated hepatic veins and vena cava with a moderate amount of mildly echogenic ascites. This is consistent with longstanding right-sided heart failure. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common 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

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



PATIENT

Sophie Battista

demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

SPECIES

Canine

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.

BREED

Pomeranian

Free Abdomen

SEX

Spayed Female

Enhanced mesentery was noted throughout the midabdomen owing to longstanding ascites.

AGE

13 years

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The patient was cyanotic upon echocardiogram; therefore the echo was performed rapidly. Mitral and tricuspid insufficiency and prolapse were noted. Moderate left atrial enlargement was noted. The right atrium was enlarged with a 1:1 right atrial to left atrial ratio. Severe pulmonary hypertension is present with right-sided failure. There was no pericardial or pleural effusion. Contractility appeared adequate and tachycardia was present.

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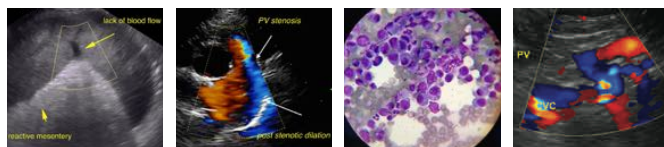
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CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC PARAMETERS	VMAX (m/s)	VMAX (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT		4.81	1.6		61	91	NM
CANINE	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	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	60	1.21	0.82		3.8 max	3.1	



PATIENT **ULTRASONOGRAPHIC FINDINGS**

Sophie Battista Right sided heart failure and emerging left sided failure with advanced valvular disease.
 Bilateral adrenal enlargement, mainly on the right.

SPECIES Heterogenous splenic and hepatic changes.

Canine

BREED INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Pomeranian
 Neoplasia is possible, yet less likely. I recommend quadro therapy in this patient. Blood pressure measurements and monitoring of azotemia, chest radiographs and basil respiratory rate as well as exercise intolerance or any coughing. Pimobendan is recommended at 0.3 mg/kg b.i.d., ace inhibitor at 0.5 mg/kg s.i.d. progressing to b.i.d., Lasix at 2 mg/kg b.i.d., Spironolactone at 1-2 mg/kg b.i.d. A recheck echocardiogram is recommended in 2 weeks. Given the cyanosis upon stress, the patient is at risk for sudden death. However, some significant progress may be made with medication.

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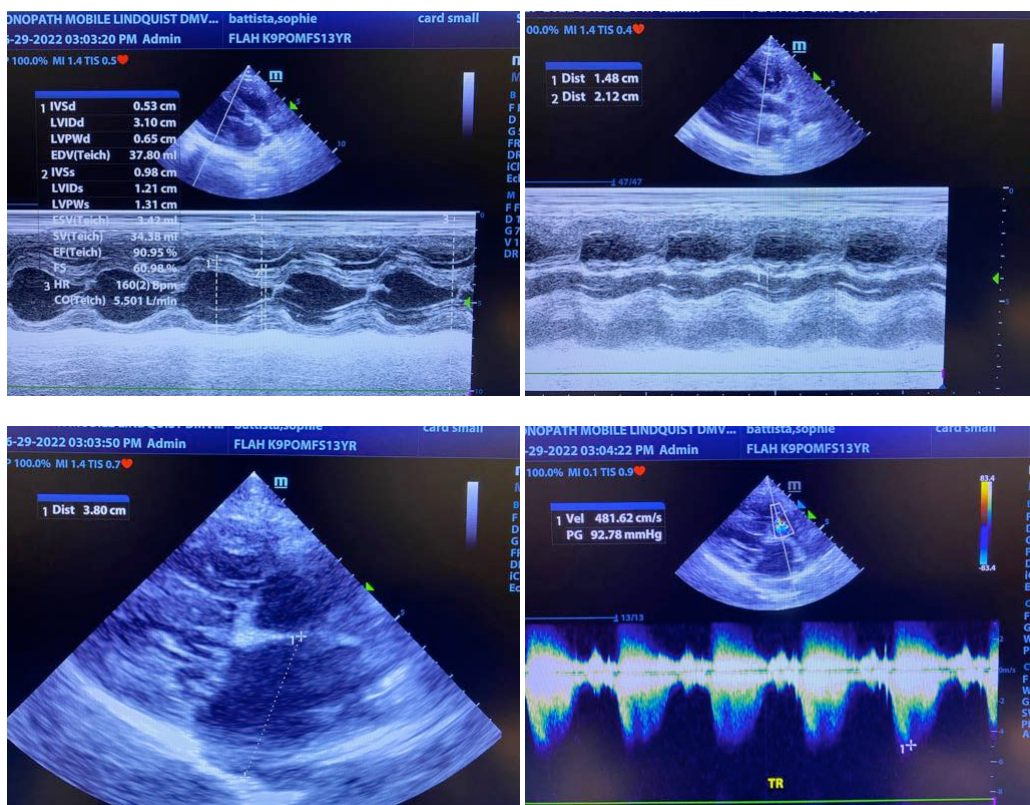
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SPECIES

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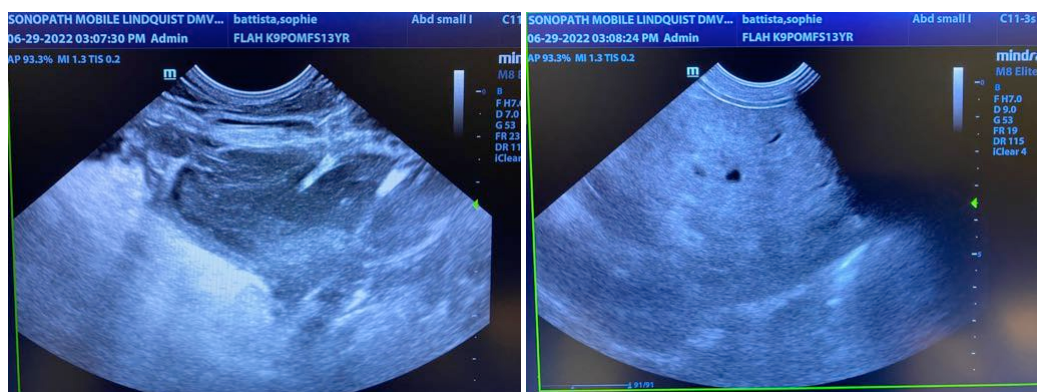
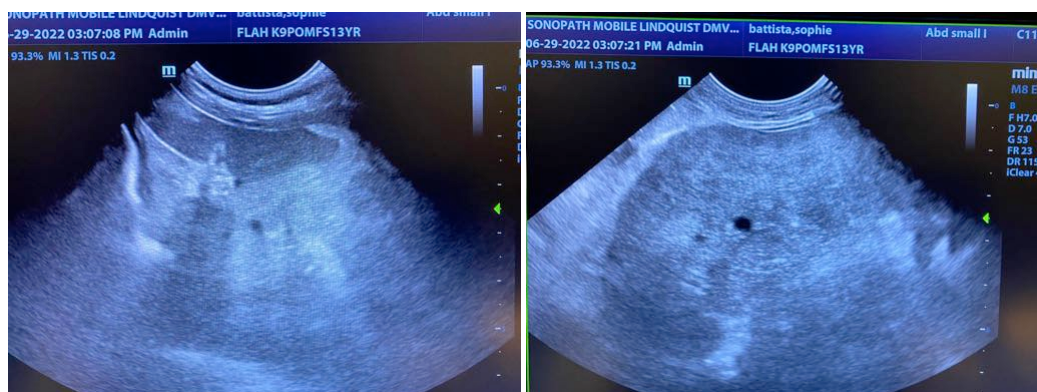
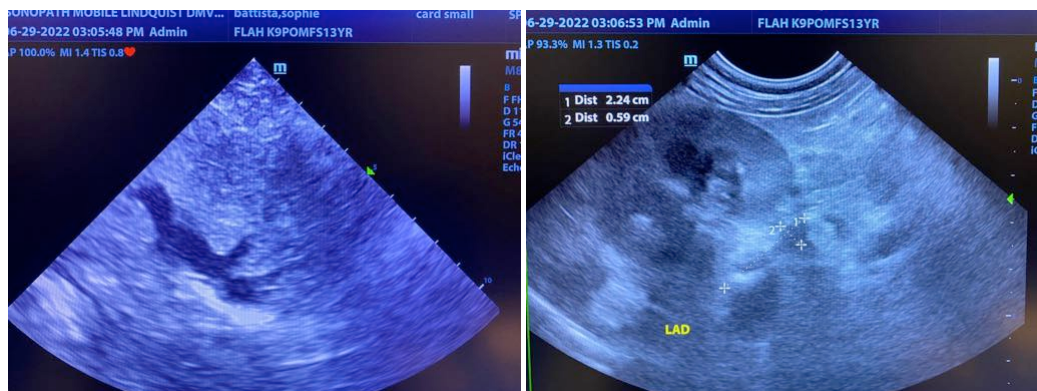
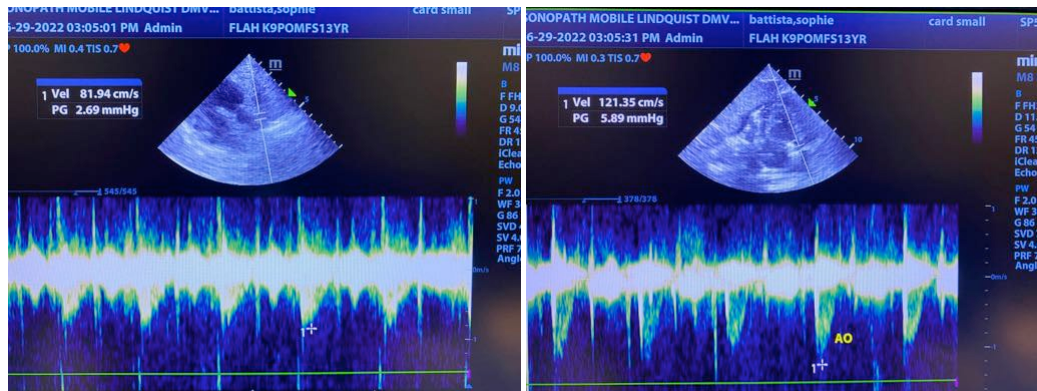
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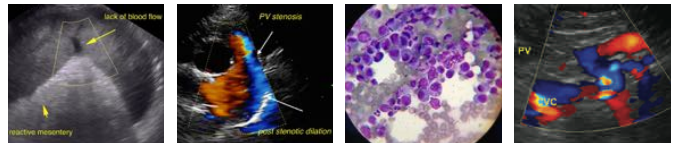
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PATIENT

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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

Pomeranian

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SEX

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