



PATIENT

Bellita Dunn

PRESENTING CLINICAL SIGNS

History: CV dz gastroenteritis V/D

SPECIES

Canine

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

BREED

Chihuahua Mix

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 his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.25 cm.

SEX

Spayed female

AGE

15 years

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 1.52 x 0.76 cm at the caudal pole and 0.46 cm at the cranial pole. The left adrenal gland measured 1.65 x 0.64 cm at the caudal pole and 0.59 cm at the cranial pole.

WEIGHT

12.7 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Spleen

The **spleen** in this patient was mildly enlarged with uniform parenchyma and was folded upon itself caudally. This is a positional variant and is not pathological. There was no evidence of significant disease.

IMAGING PERFORMED BY

Jenn

Liver

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. The hepatic veins were dilated owing to right-sided heart failure. The vena cava 1.2 cm at the diaphragm.

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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. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

DATE

7/13/22



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Pancreas

Bellita Dunn

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.

SPECIES

Canine

Free Abdomen

BREED

Trace amount of ascites was noted in this patient.

Chihuahua Mix

SEX

Spayed female

AGE

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WEIGHT

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ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. 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. 4 chamber long axis **right atrial** to left atrial ratio was subjectively 1:1. **Dysplastic tricuspid** valve was noted with severe insufficiency measuring at 3.8 m/sec. **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.

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	5.5	3.8	1.0	1.26	43	77	0.1
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	BELOW	BELOW	BELOW	BELOW
PATIENT	171	1.0	0.85	12.7	2.4	1.92	



PATIENT

ULTRASONOGRAPHIC FINDINGS

Bellita Dunn

Passive congestion liver owing to right-sided heart failure.

Trace amount of ascites.

SPECIES

Mitral and tricuspid insufficiency.

Canine

Age related abdominal changes.

BREED

Chihuahua Mix

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SEX

I recommend blood pressure measurements, monitoring BUN, creatinine and urine specific gravity. Sildenafil is recommended at 1 mg/kg b.i.d. for two weeks increasing to 1.5 mg/kg b.i.d., Pimobendan at 0.3 mg/kg b.i.d. and low dose Lasix at 1-2 mg/kg b.i.d. A recheck echocardiogram is recommended in 4 weeks if the patient is stable or earlier if clinical decline occurs. Sleeping respiratory rate should be less than 25-30/minute. The GI signs may be exacerbated by gastrointestinal hypoxia given the cardiac disease. Assessment for primary respiratory disease is also warranted as it may be influencing the pulmonary hypertension.

Spayed female

AGE

15 years

WEIGHT

12.7 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUS

IMAGING PERFORMED BY

Jenn

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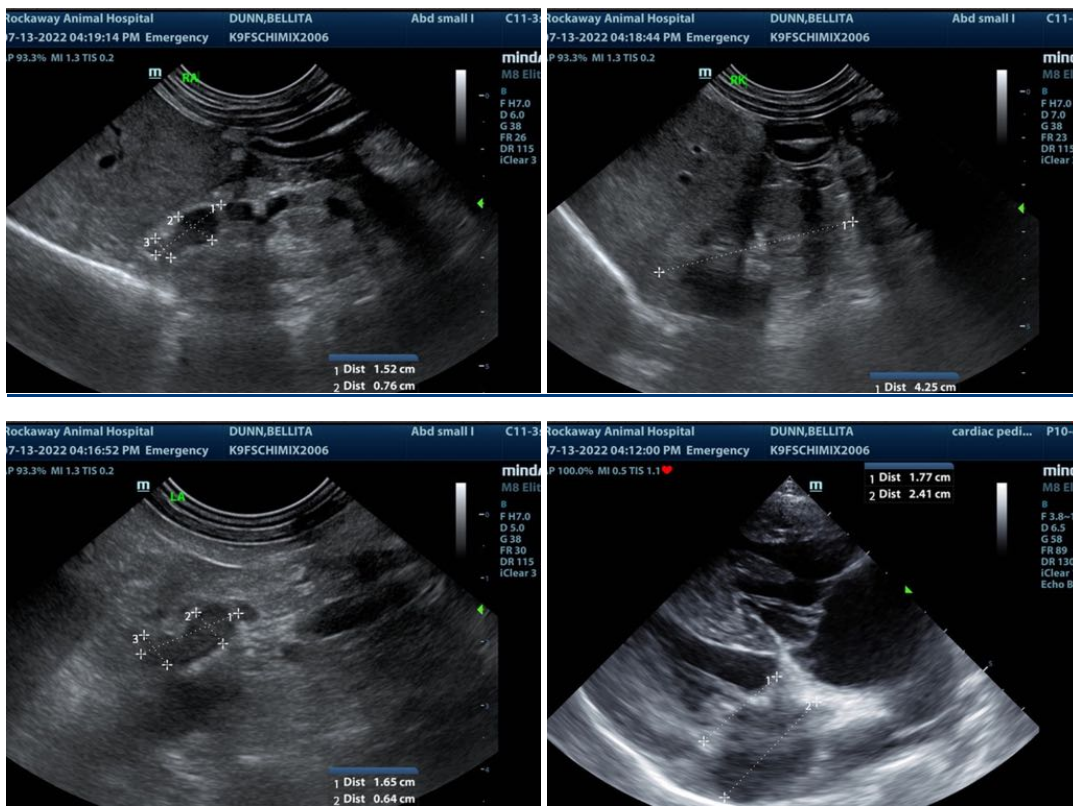
Dr. Maniar

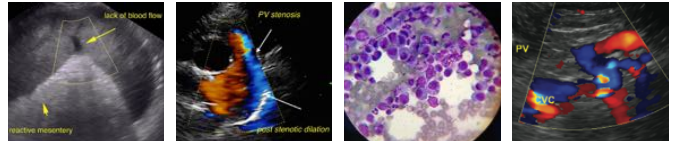
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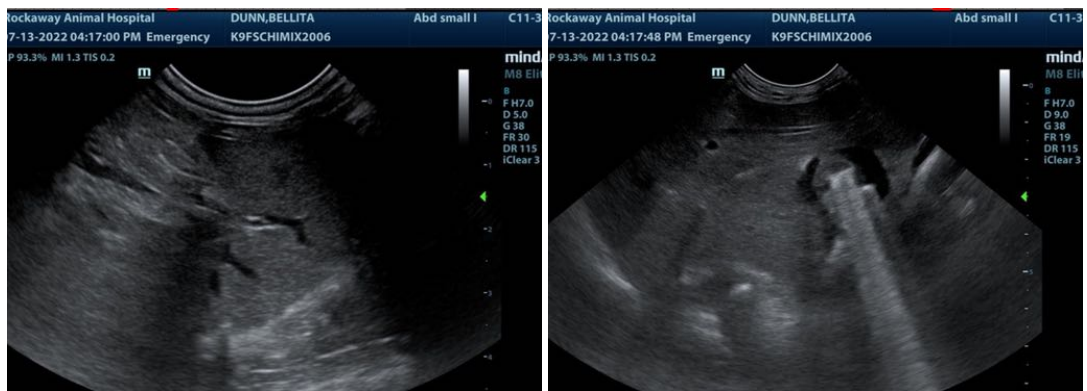
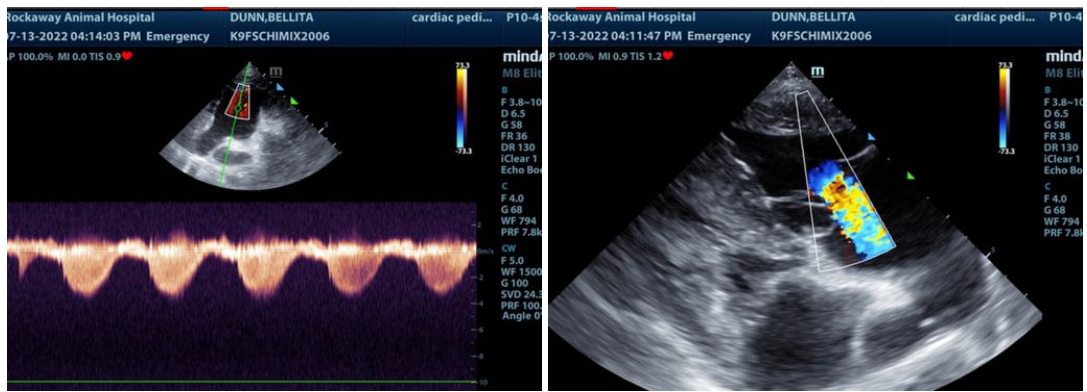
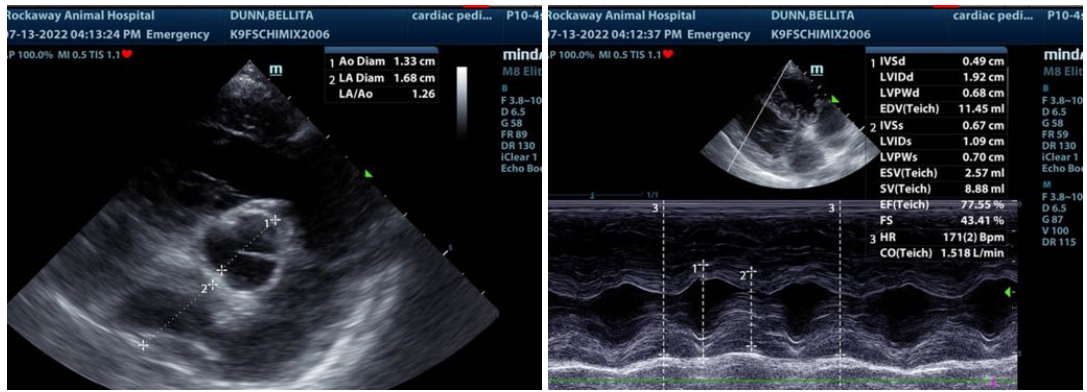
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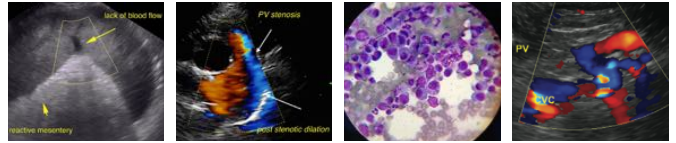
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Chihuahua Mix

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

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