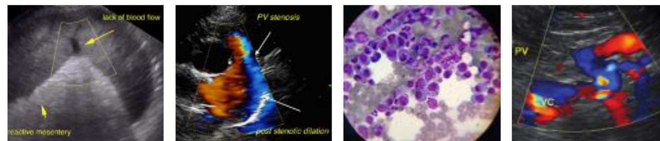
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Winnie Crowe

SPECIES
Canine

BREED
Min Pin

SEX
Spayed Female

AGE
9 Years

WEIGHT
13 Pounds

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
JK

HOSPITAL NAME
Hamburg VC

REFERRING VET
Dr. Martens

INVOICE
16534

DATE
7/8/22

PRESENTING CLINICAL SIGNS

History: Echo done on 1/25/22 form different vet. Breathing issues. DX with Right sided heart failure.

Abnormal PE/Chem/CBC/UA Results: Blood pending. BP 117/91(102), 128/101(113), 121/94(107)

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	<1.3	28-40	40-100	<0.6
PATIENT	--	--	1.15	1.36	68	95	0.26
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	150	1.10	1.90	--	--	1.72	--

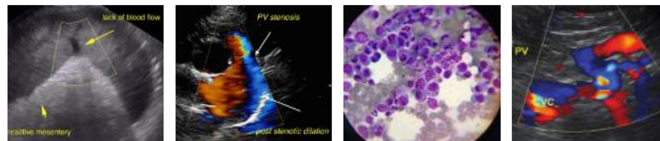
Cardiac Presentation

The right atrium, right ventricle and pulmonary artery were all dilated in this patient. No evidence of right sided failure at this time, as the hepatic veins were not dilated. Respiratory interference was present, interfering with tricuspid doppler in this patient. However, full sedation and tricuspid insufficiency velocities would be ideal. The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The **mitral valve** was not significantly insufficient, and no significant **left atrial** dilation was noted. 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. Occasional arrythmia noted in this patient, may be sinus arrythmia.

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 **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some moderate age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with



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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. Mineralization was noted in the kidneys. The right kidney measured 4.24 cm. The left kidney measured 4.12 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 right adrenal gland measured 1.73 cm x 0.56 cm. The left adrenal gland measured 1.59 cm x 0.43 cm.

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** was uniformly swollen. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with minor vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia.

The gallbladder revealed minor overdistention with suspended debris and micropolypoid changes. Minor gallbladder wall thickening was noted.

Gastrointestinal

The **gastrointestinal tract** was unremarkable and empty. Curvilinear patterns were maintained. No evidence of foreign bodies.

Pancreas

The right limb of the **pancreas** was hypoechoic and irregular, a region of approximately 2.0 cm. This is suggestive for pancreatitis.

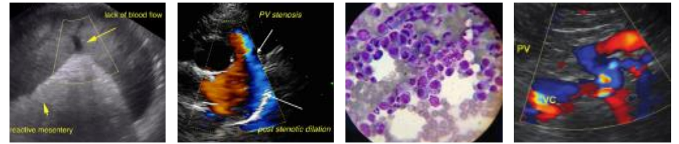
ULTRASONOGRAPHIC FINDINGS

- Gallbladder polyps and overdistention
- Cor pulmonale

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The right atrium, right ventricle and pulmonary artery were all dilated in this patient. No evidence of right sided failure at this time, as the hepatic veins were not dilated. Respiratory interference was present, interfering with tricuspid doppler in this patient. However, full sedation and tricuspid insufficiency velocities would be ideal. No cardiac medications are recommended at this time based in the image set provided.

Ursodiol therapy is recommended. Deep right subxiphoid palpation is recommended to assess for discomfort associated with the pancreas. It’s possible that the breathing issues are related to pain.



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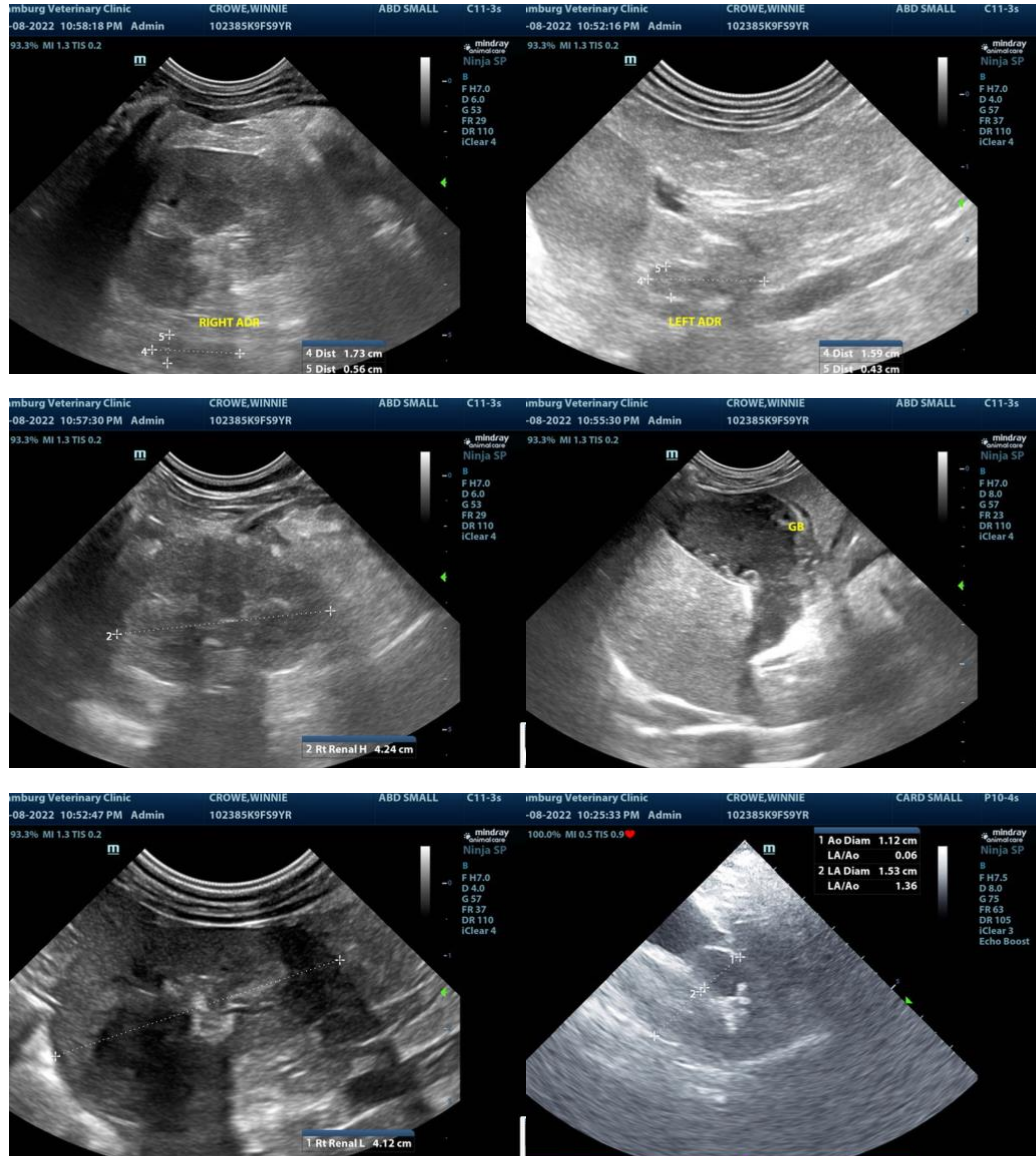
Otherwise, primary respiratory disease should be considered.



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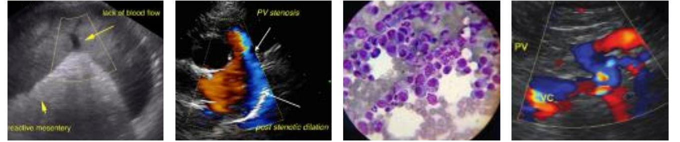

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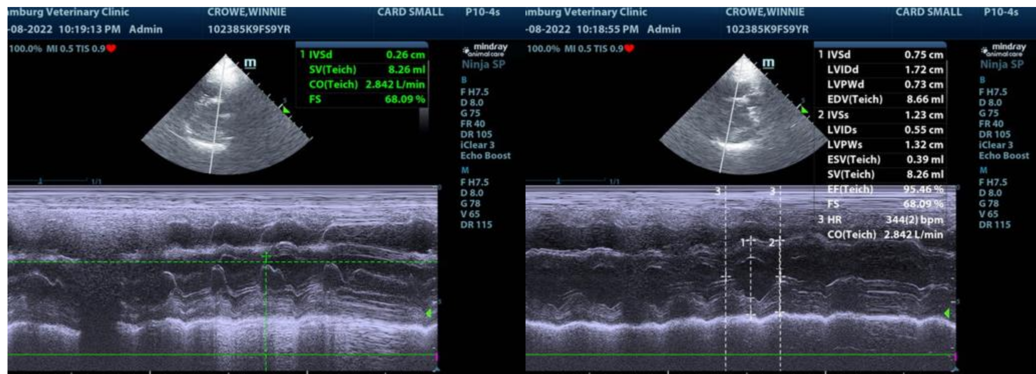

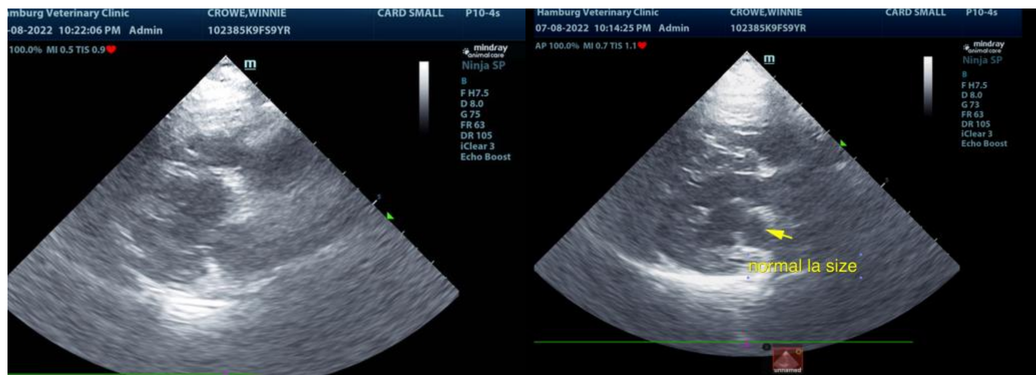

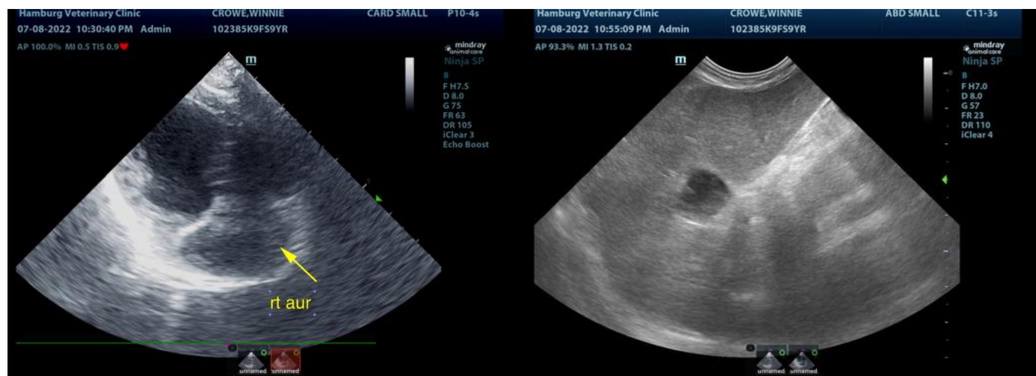

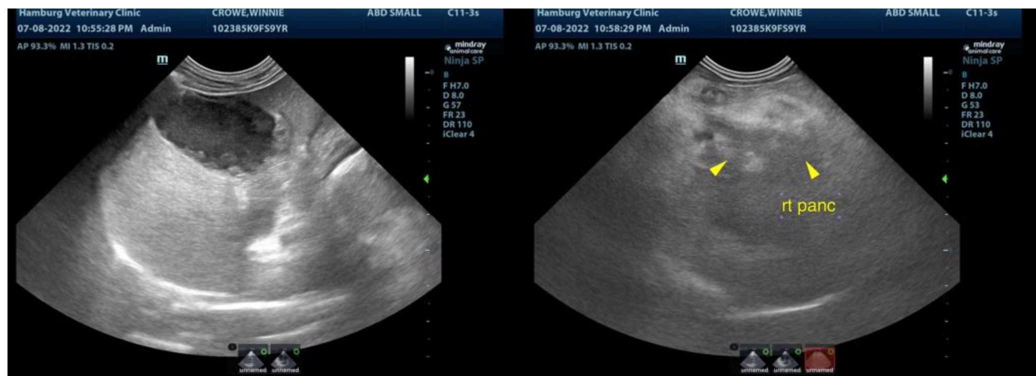

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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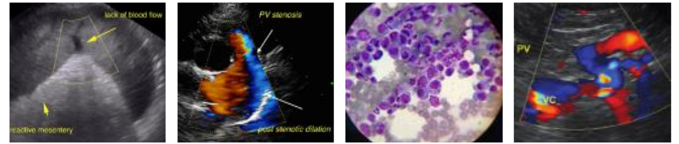

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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