

PATIENT PRESENTING CLINICAL SIGNS

Doreen Cray Was seen on 7-16-22 for vomiting, not eating and lethargy follow up on 7-19-22 radiographs show cardiomyopathy

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: labs- wbc 29.9k (neutrophils 25.3k) rads- enlarged heart rec rad review In house u/s- Enlarged spleen, cardiac tamponade

BREED

American Pit Bull Terrier

SEX

Spayed Female

AGE

10 Years 11 Months

WEIGHT

68.2 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

| CANINE CARDIAC PARAMETERS | MR VMAX (m/s) | TR VMAX (m/s) | LA/AO (Boon method) | LA/AO (Heart Base; Swedish) | FS (%) | EF (%) | EPSS (cm) |
|---------------------------|---------------|---------------|---------------------|-----------------------------|--------------------------------|------------------------------------------|------------------------------------------|
| NORMAL PARAMETER | 4.5-5.5 | <2.7 | 1.3 | <1.6 | 28-40 | 40-100 | <0.6 |
| PATIENT | 3.7 | 2.4 | 1.22 | NM | 43 | NM | 0.07 |
| CANINE CARDIAC PARAMETERS | HR (BPM) | AV VMAX (m/s) | PV MAX (m/s) | BODY WEIGHT kg | LA 2D long 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 | 161 | 0.66 | 1.30 | 31 | NM | Long axis 3.89 | Long axis 2.23 |

Adapted from June Boon, Veterinary Echocardiography, 1998
Sisson D et al. JVIM 1991; 5: 232, and Jacobs et al. Am J Vet Res 1985; 46:1705

IMAGING PERFORMED BY

Jenna Walsh, CVT

Echocardiographic findings

Mitral valve

- No abnormalities with valve leaflets
- No prolapse of leaflets
- Mild to moderate mitral regurgitation
- No left auricular or atrial enlargement
- LA: Ao ratio: within normal limits (WNL)
- No obvious signs of left atrial enlargement
- LVIDd normalized for BW (LVIDND = 1.4), WNL
- LVIDs normalized for BW (LVIDNs = 0.76), WNL, but low end of normal

HOSPITAL NAME

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REFERRING VET

Dr. Paoletti

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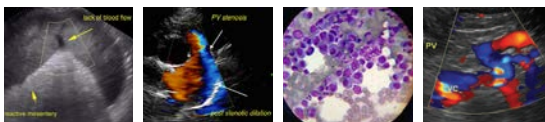
39762

DATE

7/22/22



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|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PATIENT | <i>Aortic valve</i> |
| Doreen Crary | <ul style="list-style-type: none"> No obvious abnormalities No aortic insufficiency |
| SPECIES | <i>Tricuspid valve</i> |
| Canine | <ul style="list-style-type: none"> No abnormalities with valve leaflets No prolapse of leaflets Mild tricuspid regurgitation |
| BREED | |
| American Pit Bull Terrier | <ul style="list-style-type: none"> No right ventricular, atrial or auricular enlargement, RVIDd = 0.92 cm, RVFWd = 0.96 cm Tamponade of the right atrium (severe) and right ventricle (moderate to severe) |
| SEX | |
| Spayed Female | <ul style="list-style-type: none"> Although there is very mild heterogeneity of the right ventricular free wall at the level of the right atrium extending toward the junction of the right atrium and right ventricle, it is similar in echotexture to the left ventricular free wall and interventricular septum. That is, there are no obvious signs of a mass in the right atrium, auricle or ventricle, or at the junction of the right atrium and right ventricle. |
| AGE | |
| 10 Years 11 Months | |
| WEIGHT | <i>Pulmonic valve</i> |
| 68.2 Pounds | <ul style="list-style-type: none"> No abnormalities with valve leaflets No pulmonary insufficiency Main pulmonary artery within normal limits |
| INTERPRETED BY | <i>Other</i> |
| Lisa Carioto, DVM, DVSc, Diplomate ACVIM | <ul style="list-style-type: none"> Severe pericardial effusion with tamponade of the right atrium and ventricle Fibrin within the pericardial sac Mild pleural effusion with small amount of fibrin No evidence of pulmonary edema |
| IMAGING PERFORMED BY | ULTRASONOGRAPHIC FINDINGS |
| Jenna Walsh, CVT | An obvious intracardiac or intramural mass is not visualized despite an attentive examination. Marked pericardial effusion with tamponade of the right atrium and ventricle, as well as mild pleural effusion and the accumulation of fibrin within the pericardial sac and pleural space. Please note, the absence of a mass does not exclude the possibility of a <i>diffuse</i> neoplasm, such as a mesothelioma. |
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| 39762 | Another possible differential diagnosis is idiopathic pericardial effusion, however, this tends to cause minimal ascites. Empirical therapy with low dose steroids may be considered (see below), as a treatment for idiopathic pericardial effusion, however, this is not a surrogate treatment for pericardiocentesis. Partial pericardiectomy may be performed depending on the cytology |
| DATE | |
| 7/22/22 | |



PATIENT

Doreen Crary

results or some clients wait until one or two recurrences of pericardial effusion before considering partial pericardiectomy.

There are no signs of dilated cardiomyopathy.

SPECIES

Canine

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

BREED

American Pit Bull
Terrier

The following are suggested/recommended

SEX

Spayed Female

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Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Jenna Walsh, CVT

- Evaluation of blood pressure prior to and following pericardiocentesis
- Pericardiocentesis
- Administration of intravenous fluids to correct dehydration post pericardiocentesis
- Monitoring of the resting (sleeping) respiratory rate (RRR) may be started to obtain a baseline, for example, once or twice a month. The RRR should NOT EXCEED 30 breaths per minute (bpm). If the respiratory rate is greater than 30 bpm, or if there is a gradual increase (over a day or two) toward 30 bpm, the patient should be evaluated immediately for congestive heart failure and the appropriate treatment initiated.
- Measuring abdominal circumference (see abdominal report)
- Dexamethasone at 0.25 mg/kg subcutaneously once, then 0.25 mg/kg PO once a day for 3 days, then 0.10 mg/kg PO once a day for 3 days, then 0.03 mg/kg PO once a day for 2 weeks, then 0.03 mg/kg every other day for 2 weeks and then 0.015 mg/kg every other days for 2 weeks, then every 3 days for 2 weeks and then attempt to discontinue.
- A re-evaluation (physical exam) is suggested early to mid-week next week (auscultation, general physical exam).
- An echocardiogram to assess for pericardial effusion may be repeated prior to decreasing dexamethasone dose to every other day.

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ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

REFERRING VET

Dr. Paoletti

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

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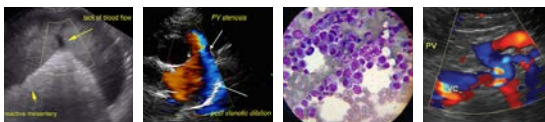
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Kidneys

DATE

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The left kidney measures 6.71 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic. A small amount of anechoic effusion is noted dorsally.



PATIENT

Doreen Crary

The **right** kidney measures 7.81 cm. Findings are similar to the left kidney. Blood flow is within normal limits.

Aortic bifurcation/trifurcation No abnormalities observed.

SPECIES

Canine

Adrenal Glands

The **left** adrenal gland measures 0.61 cm at the cranial pole, 0.50 cm at the caudal pole and 2.52 cm in length. No abnormalities are noted with the gland's architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

BREED

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Terrier

The **right** adrenal gland measures 1.04 cm at the cranial pole, 0.80 cm at the caudal pole and 3.10 cm in length. The cranial pole is rounded and a well-defined nodule is suspected, however, no obvious abnormalities are noted with the gland's overall echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

SEX

Spayed Female

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. Multiple pinpoint hyperechoic foci are noted throughout the parenchyma. The latter are most consistent with mineralizations, fat. Fibrosis is considered less likely. A very small amount of anechoic effusion is observed dorsal to the spleen. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

AGE

10 Years 11 Months

WEIGHT

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Liver

A small to moderate amount of anechoic fluid is noted surrounding the right liver. Mild hepatomegaly is suspected, which was confirmed radiographically. The liver's borders are smooth, but mildly rounded. A diffuse, mildly coarse or granular echotexture is observed, however, it appears to be within normal limits to mildly increased in echogenicity. Obvious focal lesions are not observed. Perivascular cuffing of multiple hepatic vessels is visualized, most likely due to the accumulation of fat, mineralization and possibly fibrosis. A combination of the three differential diagnoses is also possible. There are no obvious signs of portal hypertension.

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The gallbladder (GB) is mildly dilated. A small to moderate amount of free floating, gravity dependent, and inspissated echogenic material is noted. The GB wall is within normal limits in thickness and echogenicity. The cystic duct can be followed and does not show signs of dilation or tortuosity. The common bile duct cannot be followed, however, there are no signs of an obstruction.

IMAGING PERFORMED BY

Jenna Walsh, CVT

Gastrointestinal

A moderate amount of gas and fluid and small amount of ingesta are present within the lumen of the stomach. Although the gastric wall is within normal limits in thickness, the muscularis appears thickened. The surrounding mesentery appears edematous, "billowy" or "hazy". It is diffusely hyperechoic.

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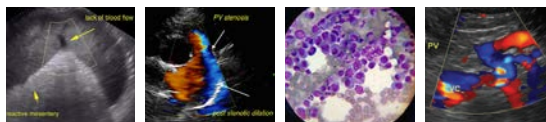
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Pancreas

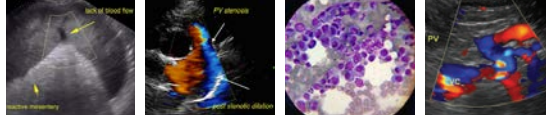
No major abnormalities are noted with the duodenum or small intestines. Abnormally dilated loops of bowel are not observed.

DATE

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| PATIENT | A scant amount of anechoic effusion is present surrounding the left limb . The left limb is enlarged and the parenchyma has a mildly heterogeneous echotexture, which appears “billowy”, suggestive of intra-acinar edema. The surrounding mesentery is mildly hyperechoic. |
| Doreen Crary | |
| SPECIES | Only a small portion of the right pancreas is visualized. No major abnormalities are observed. |
| Canine | Other |
| BREED | Lymph nodes |
| American Pit Bull Terrier | <i>Medial iliac lymph nodes:</i> no abnormalities observed |
| SEX | Abdominal effusion |
| Spayed Female | A trivial amount of anechoic fluid is visualized surrounding the urinary bladder (ventrally and cranially and dorsally). Small amounts of anechoic fluid are noted surrounding the liver, spleen and kidneys. A larger amount of effusion is present in the right cranial abdomen, particularly between the right liver and right kidney. Free floating echogenic material is present in the effusion, suggestive of proteinaceous or cellular material. |
| AGE | ULTRASONOGRAPHIC FINDINGS |
| 10 Years 11 Months | <ul style="list-style-type: none"> • Ascites: A small to moderate amount of ascites is noted. Signs of a mildly protein rich or cellular fluid are observed in the right cranial quadrant. An obvious neoplasm is not identified. Thoracic duct or lymphatic duct obstruction and vasculitis remain a possible differential diagnosis. Evaluate for hypoalbuminemia. Obvious signs of hemorrhage are not noted in the abdomen. Nodules suggestive of carcinomatosis are not observed, but are not always visualized. • Kidneys: Most consistent with age-related degenerative changes. • Pancreas: Age-related changes suspected, in addition to edema. Pancreatitis secondary to edema cannot be excluded. • Gastrointestinal tract: Edema of the stomach and surrounding mesentery, as well as inflammation secondary to recent vomiting episodes. An underlying chronic gastroenteropathy cannot be excluded. Obvious signs of neoplasia are not visualized. • Liver: No obvious signs of neoplasia. Vacuolar and reactive hepatopathies are suspected, secondary to stress and systemic illness. • Adrenal glands: Adrenal gland hyperplasia secondary to stress is suspected. |
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| INTERPRETED BY | |
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| IMAGING PERFORMED BY | |
| Jenna Walsh, CVT | |
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| INVOICE | <u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u> |
| 39762 | Abdominocentesis is suggested. Cytology is recommended. |
| DATE | Monitoring/measuring Doreen’s abdominal circumference and respiratory effort will help determine if there is a re-accumulation of ascites. |
| 7/22/22 | +/- culture (depending on cytology results) |



PATIENT

Doreen Crary

SPECIES

Canine

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Terrier

SEX

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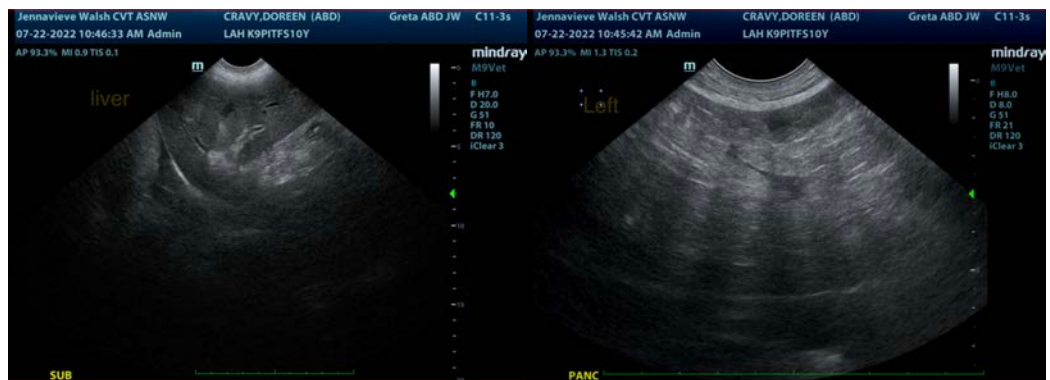
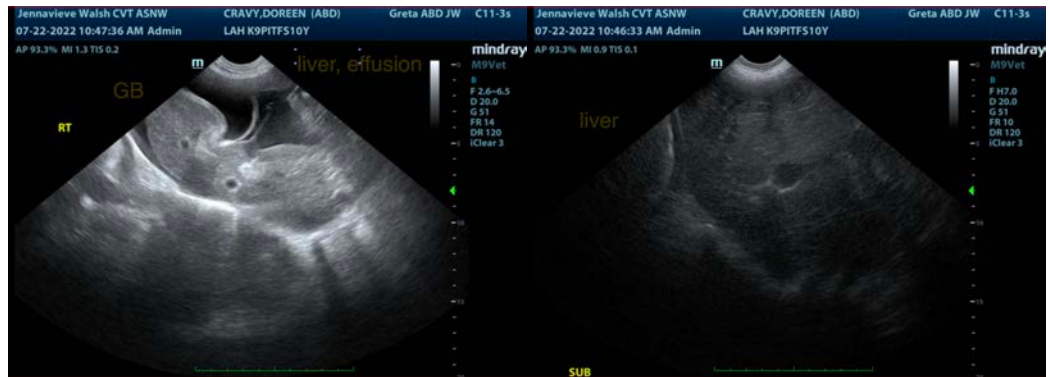
Dr. Paoletti

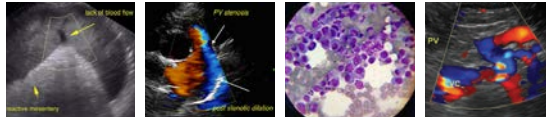
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PATIENT

Doreen Cravy

SPECIES

Canine

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American Pit Bull
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Spayed Female

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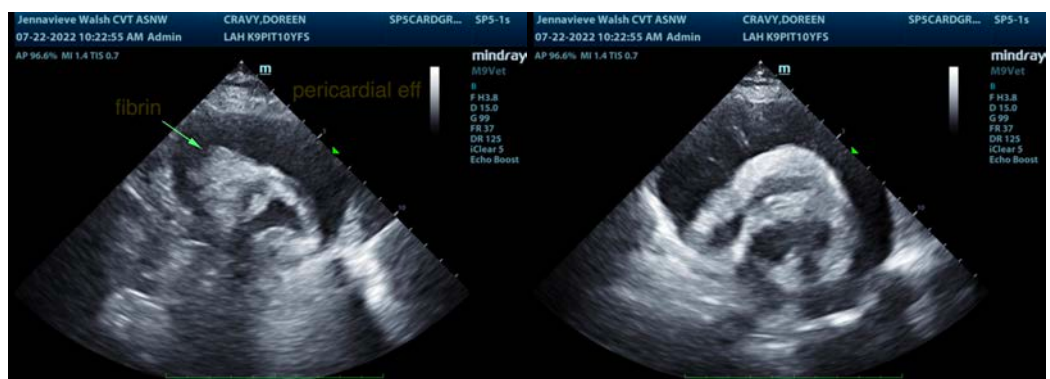
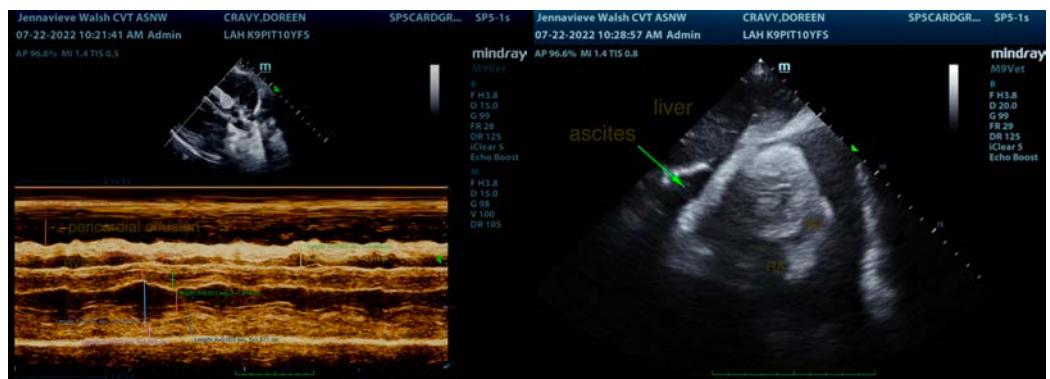
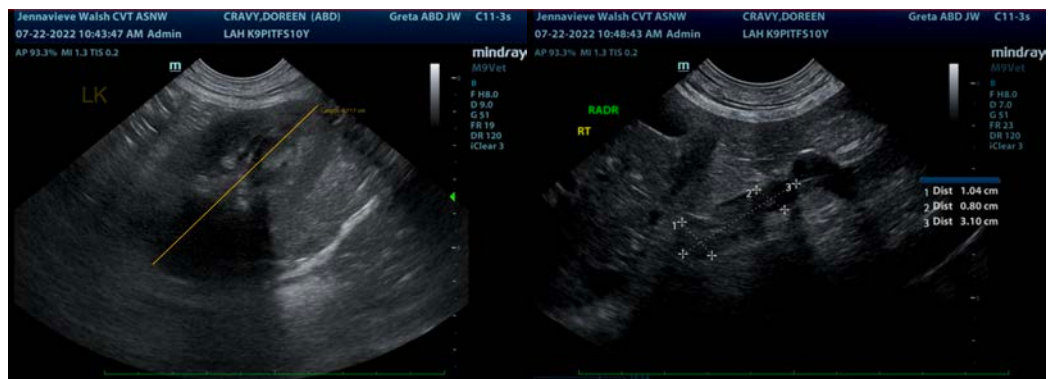
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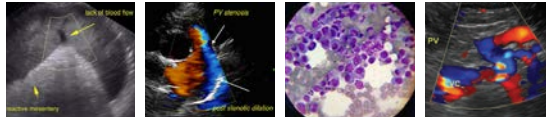
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PATIENT

Doreen Cravy

SPECIES

Canine

BREED

American Pit Bull Terrier

SEX

Spayed Female

AGE

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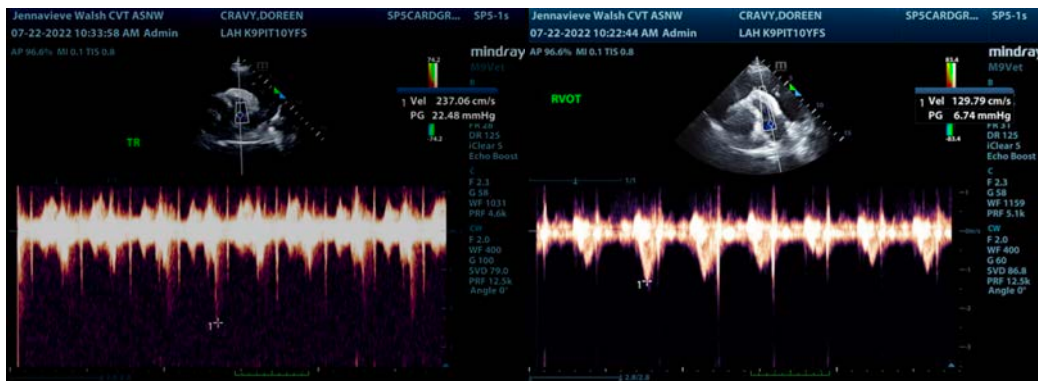
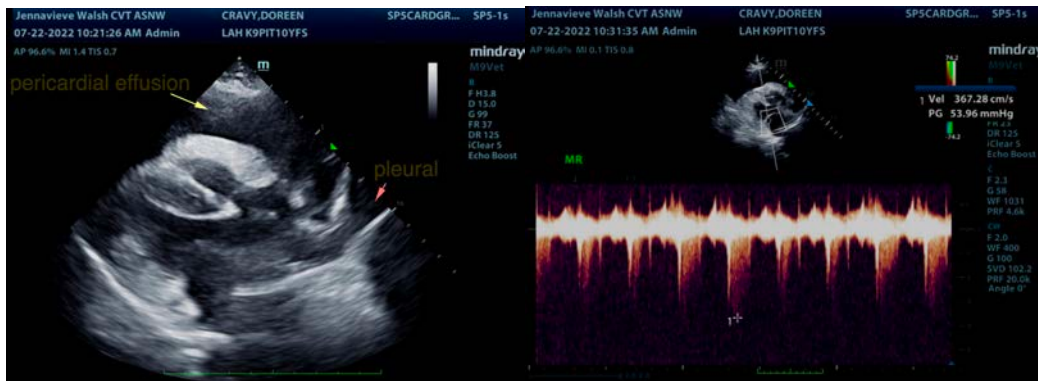
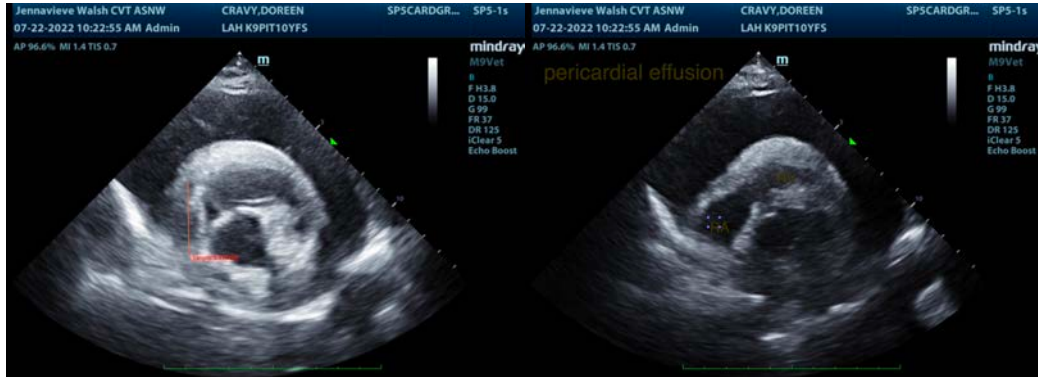
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

Lisa.Carioto@sonopath.com