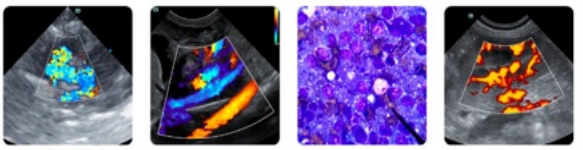


SonoPath www.thefocalzone.com info@thefocalzone.com 289.808.2608

PATIENT

Tesa Lovio

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed female

AGE

15 years

WEIGHT

23 kgs

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

St Catharines AH

REFERRING VET

Dr. Fontes

INVOICE

73751

DATE

3/24/26

PRESENTING CLINICAL SIGNS

- Throat : A cough was not inducible on tracheal palpation or with thoracic percussion; however, a spontaneous coughing episode occurred approximately 1 minute after percussion, which resolved quickly.
- Oral: NAF
- Cardiovascular: A new grade 3/6 heart murmur was auscultated, with the point of maximal intensity over the mitral valve. (apex of the heart). Tachycardia.
- Respiratory: Tachypneic with an increased abdominal component to the respiratory effort. Breathing is labored.
- Current Medications
- Enrofloxacin Inj daily in clinic
- Rads emailed, labs attached Radiographic Findings 1. Lungs: Tessa has bronchopneumonia, which is causing her rapid breathing. I explained this could be from an infectious cause (bacteria) or from unwitnessed reflux or vomiting. The plan is to treat this with antibiotics and repeat chest x-rays in 7 days to assess progress. 2. Heart: A heart murmur was auscultated today. I explained that it is likely physiologic (not causing the current problem), but a heart ultrasound was recommended to confirm overall heart health. 3. Abdomen: A mass was identified in the abdomen, originating from either the spleen or the liver.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and pelvic urethra are unremarkable with normal wall thicknesses and normal tone. The ureters were not visualized, which is a normal finding. There are no uroliths or sediment noted, and anechoic urine is present. The ureteral papillae appear normal. There is no evidence of inflammatory, infiltrative, or neoplastic disease.

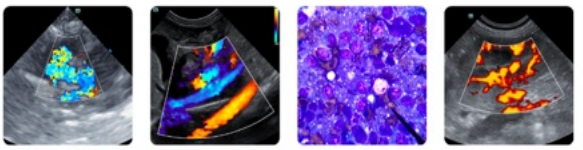
The kidneys are normal in size and structure. The cortices are mildly hyperechoic with a decreasing corticomedullary definition. The cortex to medulla ratio is appropriate. No pyelectasia is present and no pelvic dilation. The capsules are minimally irregular bilaterally. The left kidney measured 6.39 cm and the right kidney measured 6.64 cm.

Adrenal Glands

Both adrenal glands are visualized and have 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 0.67 x 2.1 cm. The right adrenal gland measured 0.74 x 2.3 cm.

Spleen

The spleen measures 1.8 cm on the hilus. The majority of the splenic parenchyma is smooth and homogenous with a smooth capsule and no significant irregularity except for a 3.91 x 5.36 cm mass lesion at the head of the spleen. The mass is isoechoic to mildly heterogenous with subtle, hypoechoic



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nodular changes within. There is no evidence of cavitation. The vasculature is normal with no evidence of congestion, spontaneous echo contrast or thrombosis.

Liver

The liver is subjectively normal liver size, contour, and structure. Parenchymal echogenicity is naturally coarse and hypoechoic to the spleen. Vasculature is within normal limits with no evidence of congestion. The gallbladder contains a mild amount of suspended echogenic debris and dependent sediment. The walls are appropriately thin. There is no evidence of intra- or extra-hepatic biliary dilation. The cystic and common bile ducts were normal. No hepatic lymphadenopathy is documented. There is no overt structural evidence of inflammatory, infiltrative or regenerative pathology evident.

Gastrointestinal

The stomach and intestines are free of stasis and peristaltic activity, with no significant dilation noted. There is normal wall thickness and acceptable curvilinear mural detail. The pyloric-duodenal junction and ileocecocolic junction are patent, and the colon contains normal shadowing feces. There is no evidence of shadowing obstructive material or overt infiltrative disease noted. No associated abnormal lymphatic activity is documented.

Pancreas

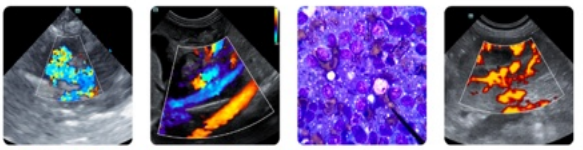
The base and limbs of the pancreas are isoechoic to surrounding omental fat. The pancreatic duct and capsular contour are normal. There is no overt evidence of active inflammatory or neoplastic disease

Free Abdomen

There is no lymphadenopathy and no free fluid.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The left atrium is normal in dimension. The left ventricle is normal in dimension with normal systolic function. The right atrium and ventricle are normal in dimension with normal systolic function. The anterior and posterior mitral valve leaflets are appropriately thin with adequate apposition, intact chordae, and there is no significant prolapse. There is no significant mitral regurgitation identified. The tricuspid valve leaflets are appropriately thin with adequate apposition, intact chordae, with mild to moderate tricuspid regurgitation and evidence of moderate pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow and appropriate diameter and distensibility. There is no pulmonic and no aortic valve insufficiency identified. There is no visible pericardial, pleural, or free peritoneal fluid documented. No evidence of hepatic venous congestion is noted. The cardiac chambers, pericardial, and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.



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CANINE CARDIAC PARAMETERS	Body Weight kg	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	23 kg	80	3.12	2.66	1.05	2.88	1.78
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	38	0.1	0.4	1.7	-	4.3	NM

ULTRASONOGRAPHIC FINDINGS

The kidneys are relatively normal in size and structure, and cortex:medulla ratio (cortex 1/3 of medulla) is essentially maintained. There is age-related loss of the normal smooth capsular contour and C/M junction definition. The cortices are largely uniform in texture with mild hyperechogenicity expected for this patient's age. There is no evidence of pelvic dilation present.

The slightly heterogenous splenic mass is concerning for potential infiltrative neoplastic disease especially given the patient's breed. However, benign changes such as hemangioma, hematoma or extramedullary hematopoiesis, cannot be definitively excluded.

The gallbladder contains echogenic, suspended and dependent unorganized debris. This is not yet to the level of an organized mucocele, however early/developing mucocele cannot be ruled out. This dependent sediment is often an incidental finding, or may be associated with concurrent endocrine disease such as hyperadrenocorticism or diabetes mellitus.

These findings identify significant pulmonary hypertension (PH) in the absence of any clinically relevant left-sided disease. Therefore, PH secondary to primary pulmonary disease is the likely cause for morbidity. Pulmonary hypertension in dogs is most commonly secondary to primary respiratory disease (chronic bronchitis, pulmonary fibrosis, or other forms of pulmonary interstitial disease). Pulmonary hypertension can also develop in dogs with severe heartworm disease or secondary to pulmonary thromboembolism (PTE). Less commonly, pulmonary hypertension is identified in dogs as an idiopathic condition. The clinical signs are likely partially attributable to this condition.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A urinalysis and urine culture via cystocentesis are recommended to evaluate the urinary tract changes for potential urinary tract infection.

Fine needle aspirates of the spleen with cytology are recommended. A coagulation profile and platelet estimate prior to sampling are indicated to ensure the absence of coagulopathy. Occasionally some

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tissues are poorly exfoliative, or cytology is non-specific, in which case biopsy with histopathology may be required for a definitive diagnosis.

Given the degree of pulmonary hypertension and the presence of clinical signs, cardiac therapy is reasonable at this time. Treatment for the PH/presumed respiratory disease is also warranted, as clinical signs are present. Therapy should include sildenafil (2 mg/kg TID). A repeat echocardiogram, thoracic radiographs, blood pressure, and chemistry panel is indicated in another 3-6 months, or sooner if progression is suspected, clinical signs worsen, or additional cardiac therapy is being contemplated.

Anesthesia considerations:

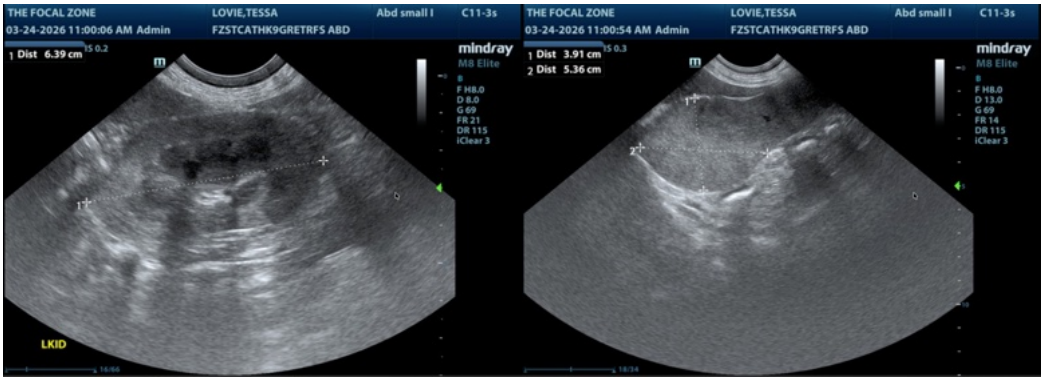
Anesthesia should be avoided if possible. If anesthesia is necessary, then alpha-2 agonists, ketamine, and Telazol should be avoided. If an ACE inhibitor (enalapril, benazepril) or spironolactone is being given, it should not be administered on the morning of general anesthesia. Other cardiac medications should be administered per the normal dosing schedule. Fluid therapy during anesthesia should be considered at a reduced rate (5 ml/kg/hour) if possible (i.e., if not hypotensive). A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is mandatory. Premedication with an opioid (e.g., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable.

Diet:

A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition with mild dietary sodium restriction (<100 mg/100 kcal) is recommended. Consider omega-3 fatty acid supplementation. Ensure the patient is not currently receiving a boutique, exotic, or grain-free diet.

Activity:

Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



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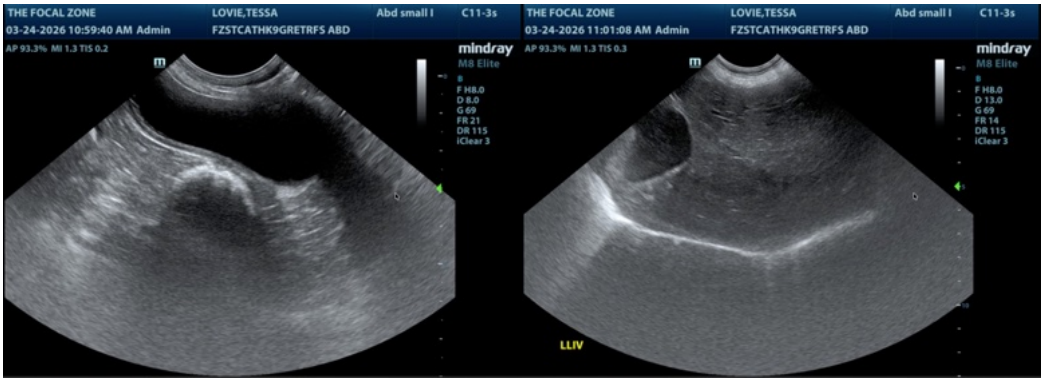

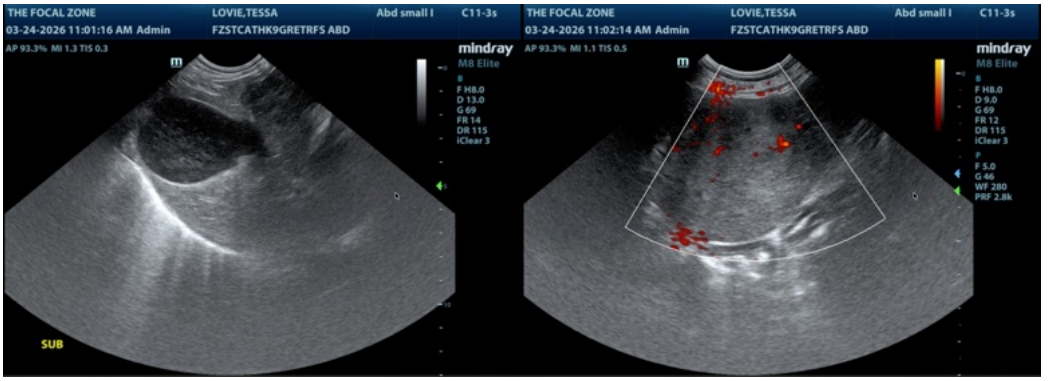

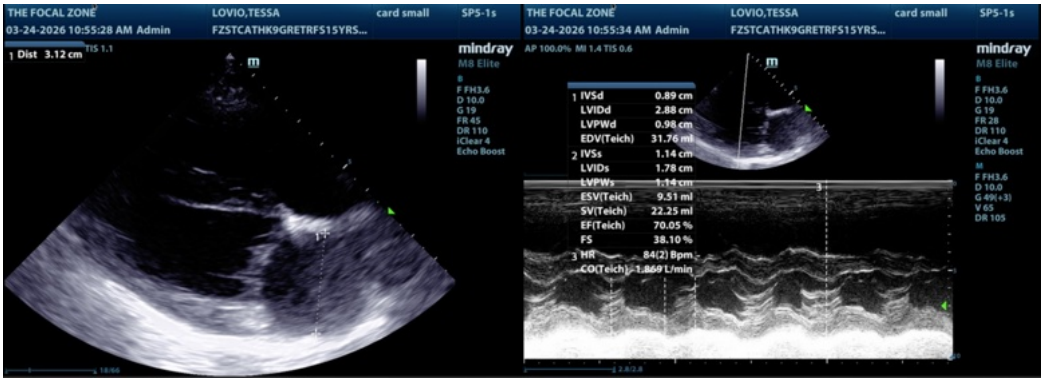

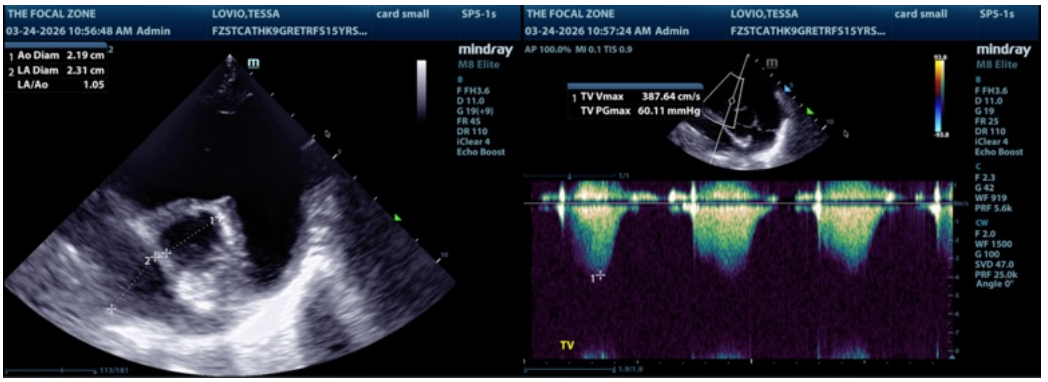

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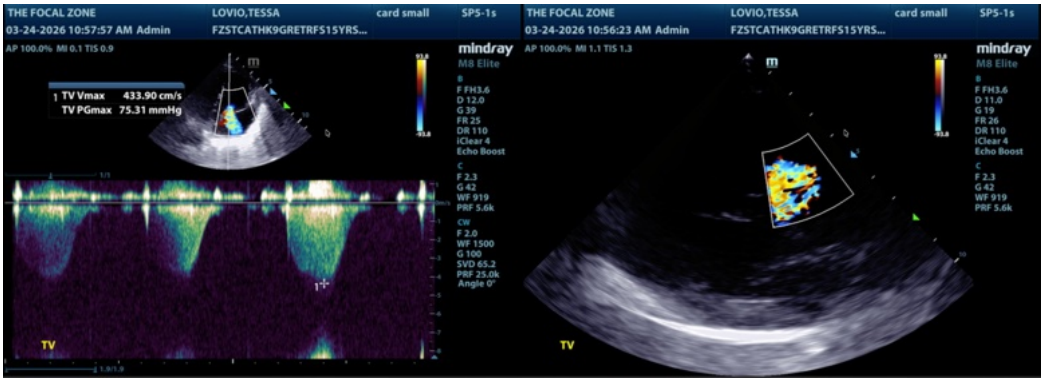

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com