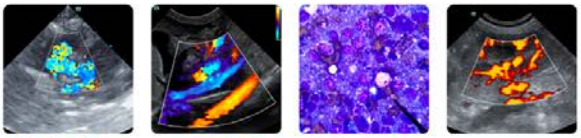


PATIENT

My Lady Becerra

SPECIES

Canine

BREED

Pit Bull x

SEX

Spayed Female

AGE

11 Years 2 Months

WEIGHT

78.7 lbs

INTERPRETED BY

Tam Mengine, DVM, DABVP (canine/feline practice)

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Englewood Veterinary Center

REFERRING VET

Dr. Ezik

INVOICE

72776

DATE

12/26/25

PRESENTING CLINICAL SIGNS

Newly developed HM grade 2, also investigate liver enzyme elevations Meds: Denamarin, Ursodiol Abnormal PE/Chem/CBC/UA Results: ALT 409, AST 66, ALP 2110, GGT 15, Ca 12.3

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (m-mode long axis)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	6.2	2.8	1.33	NM	42	75	0.35
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LAD** LA MAX 4 Chamber	**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	102	1.3	0.9	35.8	5.2	5.3	3.1

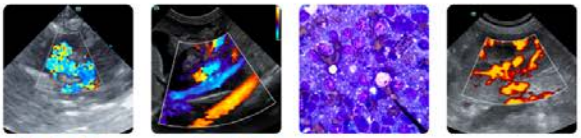
Cardiac Presentation

The **left atrium** is mildly enlarged, with no evidence of smoke or thrombus formation. The **left ventricle** exhibits mild eccentric hypertrophy, with normal wall thickness and demonstrates good systolic function. The **right atrium** is subjectively of normal size and **right ventricle** dimensions and systolic function are subjectively normal. There is severe **mitral valve** regurgitation, with no prolapse or flail observed, and trivial **tricuspid valve** regurgitation noted, with irregular thickening of the mitral valve leaflets. No vegetative lesions were seen. The mitral E-wave Velocity is 0.72 m/s, the mitral A-wave Velocity is 0.77 m/s, consistent with normal left ventricular filling pressures. The **aortic** and **pulmonary valves** both exhibit normal appearance and function. The **main pulmonary artery** appears normal. There is no evidence of clinically significant pulmonary hypertension. No pericardial/pleural effusion or cardiac masses are seen. There is no evidence of an arrhythmia.

Urinary System

The urinary bladder is moderately distended with anechoic urine, and luminal sediment is not present. The bladder wall is focally thickened and there are irregularities to the mucosal surface. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). No masses or calculi are noted. Urethra visualized to 4.0 cm.

The kidneys are of normal size and shape and exhibit appropriate corticomedullary differentiation with a normal 1:3 cortex to medulla ratio. There is no evidence of nephrolithiasis, mineralization, pyelectasia, cystic change or hydronephrosis. The proximal ureter is not visible (normal). Left measures 7.3 cm. Right measures 7.0 cm.



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Adrenal Glands

The adrenal glands are both identified in their normal locations. They are normal in size and shape with appropriate parenchymal echogenicity and normal phrenic vasculature. Left measures 6.5 mm at the cranial pole and 6.4 mm at the caudal pole. Right measures 1.0 cm at the cranial pole and 6.4 mm at the caudal pole.

Spleen

The spleen is of appropriate size and has a normal, homogenous parenchyma with a smooth, continuous capsular surface. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

Liver

The liver is diffusely hyperechoic and subjectively enlarged, with rounded margins and a homogenous echotexture. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis.

The gallbladder is moderately distended with anechoic contents and a small amount of freely-moveable echogenic sludge. The wall was thin and continuous with no focal lesions. The cystic and common bile ducts are normal / not visible.

Gastrointestinal

The stomach is empty. The gastric wall is normal deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. Intestinal motility appears normal.

The visible portions of the colon are of normal thickness (1.4 mm) with intact wall layering. The ileocecal junction is not seen.

Pancreas

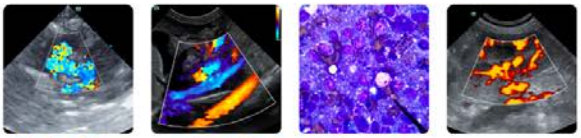
The areas of the limbs and body of the pancreas are isoechoic to the surrounding mesenteric fat, with normal capsular appearance. There is no evidence of peripancreatic inflammation. The pancreatic duct appears normal.

Free Abdomen

There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

PRIMARY FINDINGS

- Myxomatous mitral valve disease – Stage B2
- Diffusely hyperechoic, rounded liver, consistent with non-specific hepatopathy.
- Mild bladder wall thickening.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The thickened bladder wall may be incidental, but may also indicate underlying cystitis, or, less likely, emerging bladder neoplasia. A urinalysis is recommended, and if there is evidence of inflammation, then a urine culture, and possibly a urine BRAF test, would be recommended. If the urine is normal and there are no symptoms of lower urinary tract disease, then this is unlikely to be a significant finding.

The changes in the liver are non-specific and could be attributed to endocrine disease, other vacuolar hepatopathies, reactive hepatopathy, storage hepatopathy, chronic infectious or inflammatory disease, hepatic lipidosis, or less likely neoplasia. Additional recommendations include:

- screening for hyperlipidemia with a fasted triglyceride level is recommended, if not already performed
- testing for Cushing's disease is recommended only if clinical signs support the diagnosis
- bile acid testing is recommended to further assess severity of hepatic disease - if elevated then liver biopsies are strongly recommended
- if bile acids are normal, then continuing the current liver support therapies such as SAMe, Vitamin E and ursodiol, along with serial monitoring of liver enzyme levels every 2-3 months, could be initiated
- Ultrasound-guided or laparoscopic biopsies would be needed for definitive diagnosis. Fine needle aspirate for cytology could also be performed, but is less likely to yield a definitive diagnosis.

For the mitral valve disease, the following recommendations are suggested:

- Begin pimobendan at 0.1- 0.3mg/kg BID.
- Daily monitoring of the sleeping respiratory rate at home is recommended, and if the sleeping respiratory exceeds 35 breaths per minute, then a prompt recheck physical examination and chest radiographs to assess for pulmonary edema would be warranted.
- The patient may benefit from a cardiac diet such as Purina's "CardioCare" veterinary diet. Omega-3 Fatty acid supplementation may also be of benefit.
- Extremely vigorous exercise should be avoided, but there are no restrictions on moderate exercise, such as leash walking.
- Recheck echocardiogram is recommended in 6-8 months. MMVD is a progressive disease, and it is likely that additional medication may be needed in the future.
- If anesthesia is needed, the following recommendations are suggested:
    - If possible, wait 2-3 weeks after starting pimobendan before proceeding with anesthesia
    - Avoid a-2 agonists such as dexmedetomidine and xylazine.
    - Pre-medication with an opiate and a benzodiazepine is recommended. Additionally, Gabapentin 10mg/kg PO and trazodone 5mg/kg PO given first thing in the morning on the day of the procedure can further reduce inhalant anesthetic requirements.

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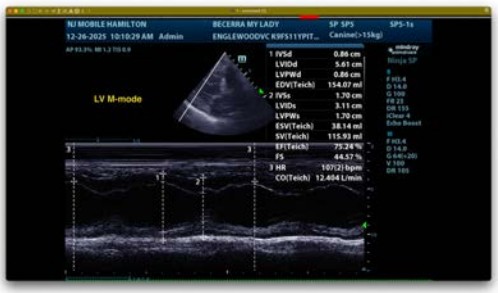
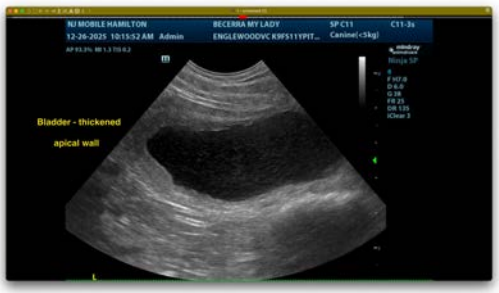
- Pre-oxygenation, followed by induction with propofol or alfaxalone is recommended, followed by maintenance with isoflurane or sevoflurane.
- When feasible, the use of local anesthetic blocks can decrease maintenance anesthetic requirements.
- Moderate use of IV fluids throughout the procedure is recommended, with a starting dose of 3-5ml/kg/hr, with modest increases as needed to support blood pressure, but not to exceed a total volume of 20-30ml/kg for the procedure. The minimum volume necessary to maintain adequate blood pressure is desirable.
- Use atropine, if necessary, to maintain a HR > 90 throughout the procedure. If available, a dopamine or dobutamine CRI can be used for additional blood pressure support if the patient experiences hypotension.





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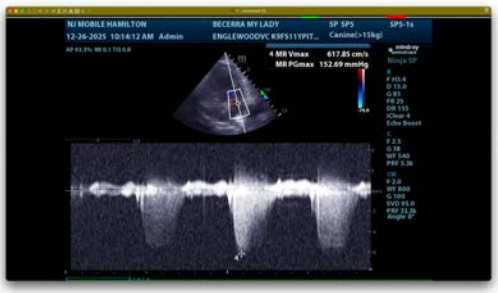

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Tam Mengine, DVM, DABVP (canine/feline practice)

info@SonoPath.com