



PATIENT

Nulla Scura

SPECIES

Canine

BREED

Japanese Chin x

SEX

Spayed Female

AGE

12 Years

WEIGHT

15.5 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

All Creatures Great &
Small (Denville)

REFERRING VET

Dr. Ashmore

INVOICE

72966

DATE

2/13/26

PRESENTING CLINICAL SIGNS

BCS 3/9. Wellness exam.

Abnormal PE/Chem/CBC/UA Results: WNL

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	5.8	2.7	1.4	1.5	42	73	0.2
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	129	1.3	0.8	7.0	3.0	3.1	1.8

Cardiac Presentation

The **left atrium** is mildly enlarged, with no evidence of smoke or thrombus formation. The **left ventricle** is mildly dilated 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 significant **mitral valve** regurgitation, with prolapse of the anterior leaflet, 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 0.8 m/s, the mitral A-wave Velocity is 1.2 m/s, consistent with normal left ventricular filling pressures, and E-A reversal which is an incidental occurrence in older dogs. 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 minimally distended with anechoic urine, and no luminal sediment is present. The ureteral papillae, trigone and pelvic urethra (visible to 3.0 cm) are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted.

The kidneys are hyperechoic and exhibit mildly decreased cortico-medullary differentiation. There is an anechoic cyst in the left kidney. There is no evidence of nephrolithiasis, mineralization, pyelectasia or hydronephrosis. The proximal ureters are not visible (normal). Left kidney measures 3.5 cm. Right kidney measured 4.2 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 4.1 mm at the cranial pole and 6.2 mm at the caudal pole. Right measures 5.4 mm at the cranial pole and 5.7 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 of appropriate size and shape, with sharp borders and a mildly coarse parenchymal echotexture that is hypoechoic to the spleen. 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 moderately distended with gas. The gastric wall is 2.6 mm with 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 (1.3 mm) with intact wall layering. The ileocecal junction is not seen.

Pancreas

The right limb of the pancreas is hypoechoic to the surrounding mesenteric fat, with an inhomogeneous parenchyma and 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 (MMVD) – Stage B2.
- Mild chronic renal changes.
- Mottled right pancreas, which is likely an incidental aging change in absence of clinical signs of pancreatitis.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The appearance of the kidneys is typical of mild age related degenerative change. Findings should be correlated with CVC/chem and urinalysis results. If there are abnormalities and lab work supportive of significant renal disease, then treatment in accordance with IRIS guidelines would be recommended.

Regarding the cardiac presentation:

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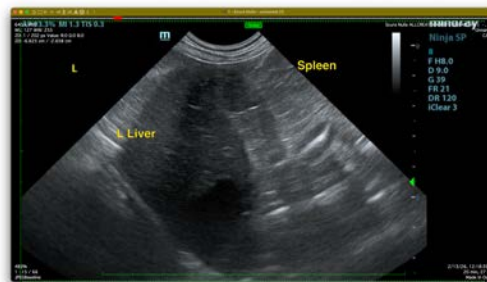
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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