



**PATIENT**

Ebenezer Phillips

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Neutered male

**AGE**

11 years

**WEIGHT**

22 lbs

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Santora

**INVOICE**

42823

**DATE**

12/1/22

**PRESENTING CLINICAL SIGNS**

History: Patient presented 8/22 for occ syncopal episodes - had echo elsewhere, diagnosed with pulmonary hypertension & Stage B2 mitral valve dz (TR vel 3.3m/sec), started on sildenafil & Pimobendan. Patient has since developed diarrhea and occasional vomiting, and over last 3 days has had 5 episodes of seeming weak and out of it

Episodes of collapse and confusion for several days in a row, along with diarrhea and vomiting. Recent diagnosis of Stage B2 MMVD and mild pulmonary hypertension, for which Pimobendan 2.5mg BID and sildenafil 10mg BID were started in October.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic urine, and no luminal sediment is present. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted. Urethra visualized to (3.0) cm.

The prostate is diffusely enlarged measuring (3.5 cm x 3.2 cm x 2.4 cm), with a hyperechoic parenchyma and smooth capsule. The prostatic urethra is not dilated.

Both kidneys are hyperechoic, and exhibit mildly decreased, cortico-medullary differentiation. There is no evidence of nephrolithiasis, mineralization, pyelectasia or hydronephrosis. The proximal ureters are not visible (normal). The left kidney is (5.1) cm in length. The right kidney is (5.3) cm in length.

**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. The left adrenal gland height is (4.6) mm at the cranial pole and (6.4) mm at the caudal pole. The right adrenal gland height is (5.0) mm at the cranial pole and (6.2) mm at the caudal pole.

**Spleen**

A 6.7 x 3.7mm mass is noted in the body of the spleen, which disrupts the splenic capsule. The surrounding omentum is normal. 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. 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 large 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.



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**Gastrointestinal**

The stomach is empty. The gastric wall is (4.6) mm with normal deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

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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. The duodenal wall measures (4.8) mm. The jejunal wall measures up to (4.6) mm. Intestinal motility appears normal.

**BREED**

Mix

The visible portions of the colon have increased thickness, up to (2.4) mm, with intact wall layering. The ileocecal junction is visualized and appears normal.

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**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.

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**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.

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**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

Moderate mitral regurgitation with thickening of valve leaflets. Mild tricuspid regurgitation with thickening of valve leaflets. Trivial pulmonic insufficiency and normal aortic valvular flow. Adequate systolic function, with very mild left atrial enlargement, improved from previous echocardiogram in 10/22. Pulmonary pressures improved from 10/22. No evidence of pericardial effusion or cardiac masses.

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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	<1.6	28-40	40-100	<0.6
PATIENT	6.0	2.9	1.2	1.76	54%	88%	NM
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	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	1.4	1.3	10kg	2.17	3.1	1.5

**Cardiac Presentation** (due to patient aggression, ECG and HR assessment could not be performed)

## ULTRASONOGRAPHIC FINDINGS

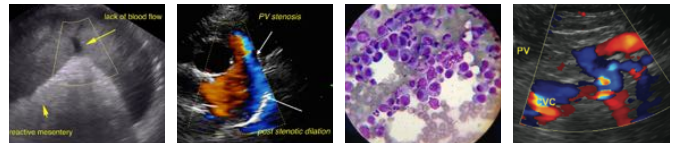
- Hypoechoic, reticulated splenic nodule.
- Mild chronic renal changes.
- Mildly enlarged prostate.
- Reactive hepatopathy.
- Stage B2 MMVD (improved LA size since starting Pimobendan)
- Mild pulmonary hypertension (controlled on sildenafil)

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes in the liver are suspected to be reactive, although a FNA would be necessary to definitively rule out neoplastic disease. The splenic nodule is of more concern and a FNA is recommended to rule out neoplasia. Three view chest radiographs are recommended.

The enlarged prostate is likely due to the reported late age at neutering. There is no evidence of infection or neoplastic disease. Correlate the changes to the kidneys with blood results, urinalysis and clinical signs. Blood pressure would also be recommended especially given the history of undefined neurologic or syncopal episodes.

Today's echocardiogram demonstrates a positive response to both medications started in October. There is no evidence that cardiac disease is playing a role in the reported episodes. Continue sildenafil and Pimobendan at current doses and recheck echocardiogram in 4-6 months. Investigate for intrabdominal disease, given the reported vomiting and diarrhea, and consider neurologic disease as a cause for the "episodes".



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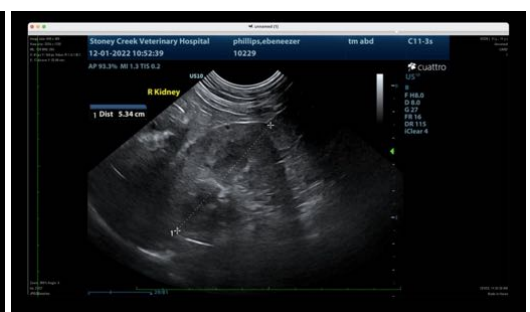
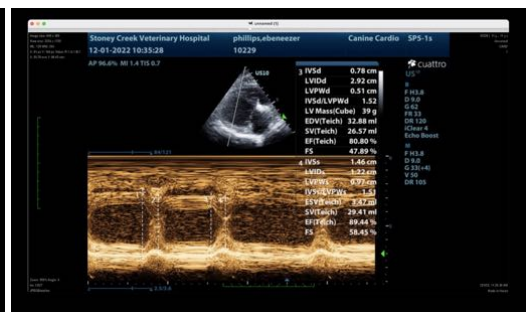
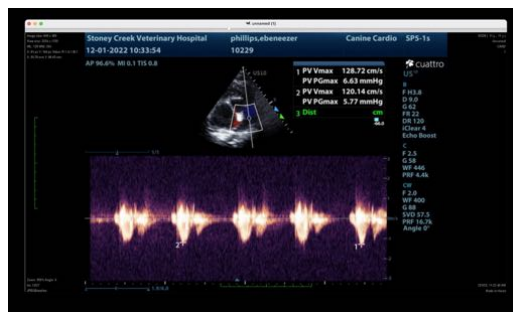
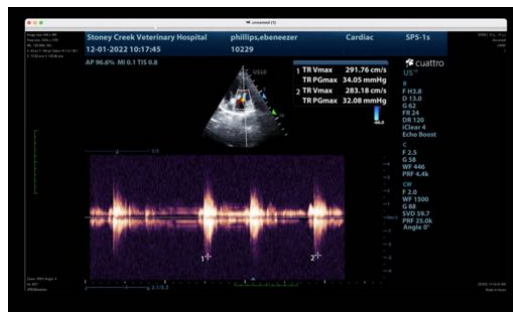
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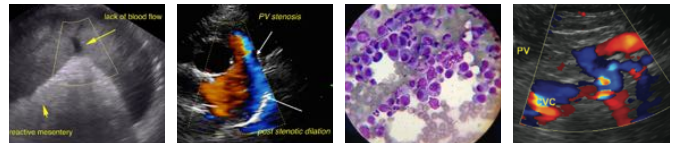
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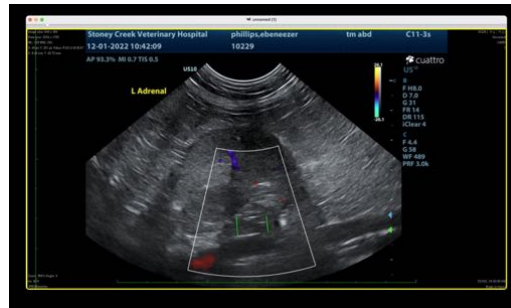
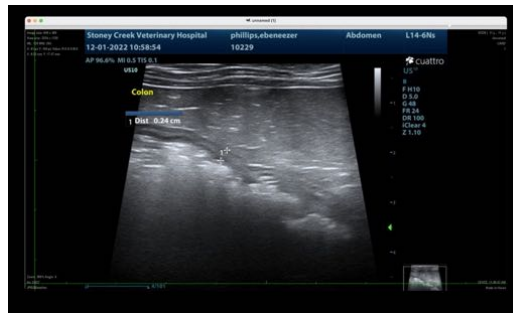
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Dr. Mengine

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.

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