

**PATIENT**

Rocky Fonteboa

**SPECIES**

Canine

**BREED**

Jack Russell/Chihuahua

**SEX**

MN

**AGE**

11 years

**WEIGHT**

16.6 lbs

**INTERPRETED BY**

Bradley Harris, DVM,  
DACVECC, DACVIM  
(cardiology)

**IMAGING PERFORMED BY**

Becca Hamilton

**HOSPITAL NAME**

Animal General Hudson

**REFERRING VET**

Dr. Giuseppe

**INVOICE**

10891

**DATE**

12/8/2025

**PRESENTING CLINICAL SIGNS**

Echo: HM- pre sx echo, AUS- elevated ALP and TBili, Ca<sup>+</sup>, R MPL, HM, SQ and Cutaneous growths.  
Meds: Carprofen 75mg 1/4 tab PO BID.

Abnormal PE/Chem/CBC/UA Results: CBC WNL, Chem ALP (155) Tbili (0.3) Hypercalcemia (11.5) ICa Pending.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

CANINE CARDIAC PARAMETERS	BW	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	7.55 kg	100	2.6	1.72	1.42	2.49	1.57
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	37	0.3	0.8	1.7	6.3	NM	41%

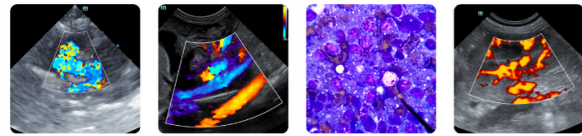
**Cardiac Presentation**

The left atrium is normal in dimension. The left ventricle is normal in dimension, with normal systolic function. The right atrium and ventricle are subjectively normal in dimension and systolic function. The mitral valve is thickened and redundant consistent with myxomatous changes, and there is minimal prolapse. There is evidence of moderate mitral regurgitation. The tricuspid valve leaflets are subjectively normal with no tricuspid regurgitation and no evidence of 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 evidence of semilunar valve insufficiency. There is no visible pericardial, pleural, or free peritoneal fluid noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic urine, and a moderate amount of swirling, suspended, mobile echogenic debris. There are several hyperechoic shadowing uroliths within the urinary bladder apex. The trigone, and proximal urethra are patent. There is no significant mucosal irregularities or evidence for inflammatory or infiltrative disease.



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The kidneys are normal in size. The cortices are mildly hyperechoic with a decrease in corticomedullary definition. The renal cortex to medulla ratios are appropriate with no significant pyelectasis or pelvic dilation. There is mild dystrophic mineralization noted bilaterally, that is non-obstructive at this time. The capsules are mildly irregular. Left kidney measures 4.03 cm, and the right kidney measures 4.18 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. Left adrenal measures 0.5 cm x 1.77 cm, and the right adrenal measures 0.55 cm x 1.84 cm.

**Spleen**

The spleen is smooth with homogeneous parenchyma and hyperechoic to liver and renal cortical parenchyma. The capsule is without noticeable irregularity or deformation. The splenic vasculature is normal without signs of congestion, spontaneous echo contrast, or thrombosis. No evidence of acute or chronic inflammatory, neoplastic, or infarct are documented. The spleen measures 1.7 cm at the hilus.

**Liver**

The liver is subjectively normal liver size and contour with a mottled, or heterogenous parenchyma. The vasculature is normal with no evidence of congestion. No hepatic lymphadenopathy is documented.

The gallbladder is mildly distended with anechoic bile and a mild amount of suspended echogenic debris and dependent sediment. There is no intra- or extra-hepatic biliary dilation. The cystic and common bile ducts were normal.

**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 ileocecolic 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**

No lymphadenopathy, and no free fluid is noted.

**ULTRASONOGRAPHIC FINDINGS**

- These findings are consistent with degenerative/myxomatous mitral valve disease with minimal to mild hemodynamic effects consistent with ACVIM Stage B1 disease. It is unlikely that any current morbidity is of cardiac origin.



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- The urinary bladder contains echogenic, suspended debris contrasted with anechoic urine. This is often related to urinary tract infection but may represent exfoliated debris or sterile inflammation.
- There are multiple uroliths within the urinary bladder lumen with acoustic shadowing. Depending on the nature of some stones, they may be dissolved with diet change alone. Others require surgical intervention. Many stones require analysis after cystotomy in order to ascertain the composition, as well as identify concurrent bacterial infection that can be undetected on urine culture alone.
- 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. Dystrophic mineralization was noted and appears non-obstructive at this time, with no evidence of pyelectasis.
- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory, immune-mediated, metabolic, or endocrine disease. Infiltrative neoplasia or acute hepatitis cannot be ruled out.
- 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.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given these findings, no cardiac therapy is recommended. There are no cardiac contraindications to anesthesia, fluid therapy, vasopressor therapy, or corticosteroids as indicated for further assessment and treatment. If not already performed, baseline thoracic radiographs and blood pressure are recommended. A recheck echocardiogram is recommended in 6 months.

Anesthesia considerations:

If anesthesia is necessary, alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. Fluid therapy during anesthesia should be considered at a conservative rate (e.g., 5 ml/kg/hour) if possible.

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 is reasonable.

Activity:

No special considerations are necessary.

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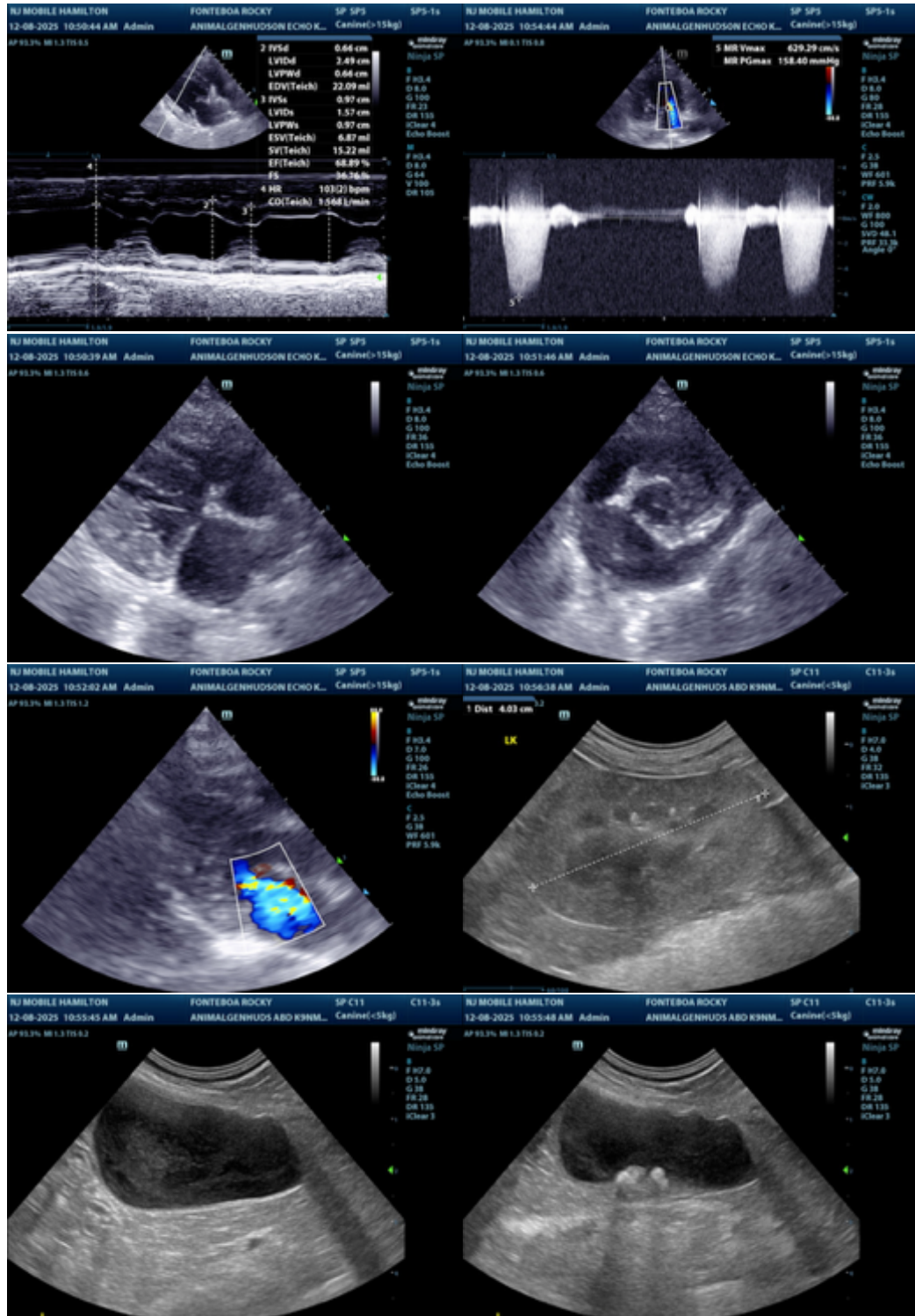
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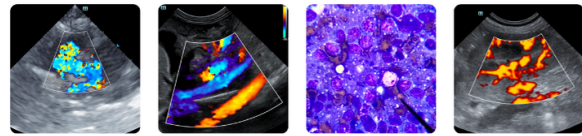
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tissues are poorly exfoliative, or cytology is non-specific, in which case biopsy with histopathology may be required for a definitive diagnosis.





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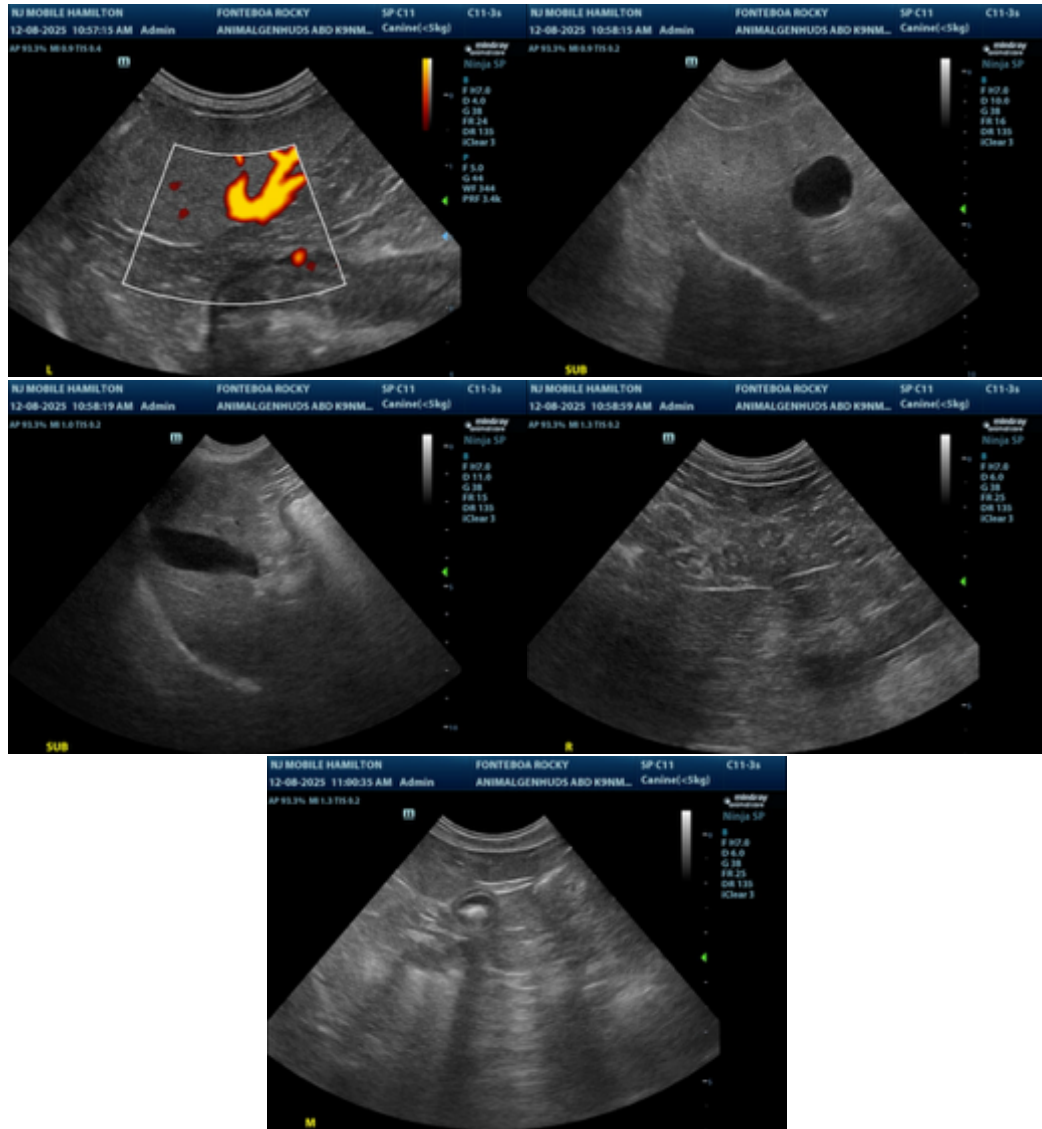
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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](mailto:info@SonoPath.com)