



**PATIENT PRESENTING CLINICAL SIGNS**

Bean Benes History: Possible abd mass noted on radiographs. Grade I/VI heart murmur noted during PE. BCS 9/9.

**SPECIES** Meds: Receiving Doxycycline. (Torb/Midaz for scan)

Feline

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

**BREED**

DSH

**SEX**

Female Spayed

**AGE**

1 yr

**WEIGHT**

19.4 lbs

| FELINE CARDIAC PARAMETERS | BODY WEIGHT (kg) | HR (BPM)                  | IVSd (cm)            | LVIDd (cm) | LVWd (cm)       | FS (%)          | EF (%)    |
|---------------------------|------------------|---------------------------|----------------------|------------|-----------------|-----------------|-----------|
| NORMAL PARAMETER          | -----            | 150-240                   | 0.3-0.6              | 1.0-2.1    | 0.25-0.6        | 35-67           | 80-100    |
| PATIENT                   | --               | 137                       | 0.35                 | 1.3        | 0.45            | 45              | 82        |
| FELINE CARDIAC PARAMETERS | LA/AO (M-mode)   | LA/AO HEART BASE (Sisson) | LAD LA MAX 4 Chamber |            | LVOT VEL. (m/s) | RVOT VEL. (m/s) | IVRT (m/) |
| NORMAL PARAMETER          | <1.5             | 1.6                       | 0.7-1.7              |            | <1.6            | <1.3            | 40-60     |
| PATIENT                   | --               | 1.0                       | 1.0                  |            | 1.1             | 0.8             | --        |

Adapted from June Boon, Veterinary Echocardiography, 1998  
 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

**INTERPRETED BY**

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

**IMAGING PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

Smithfield AH

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**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Moderate accumulated non-dependent sediment and possible mucus was present without evidence of calculus



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formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 4.0 cm in length. The right kidney measured 4.4 cm in length.

**Adrenal Glands**

The left and right adrenal glands were overtly normal in size, position and shape.

**Spleen**

A symmetrical non-homogeneous caudal splenic mass was present exhibiting similar echogenicity to adjacent spleen measuring ~2.8 cm in diameter.

**Liver**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild, echogenic, non-shadowing ingesta without signs of obstruction or foreign material.

The small intestine presented intact mildly thickened wall with altered wall layer ratio. Mildly prominent muscularis layer noted. Small intestine wall measured 0.28-0.30 cm.

Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**Free Abdomen**

No omental masses, lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Normal echocardiogram
- Splenic mass
- Mildly thickened small intestine
- Urine sediment



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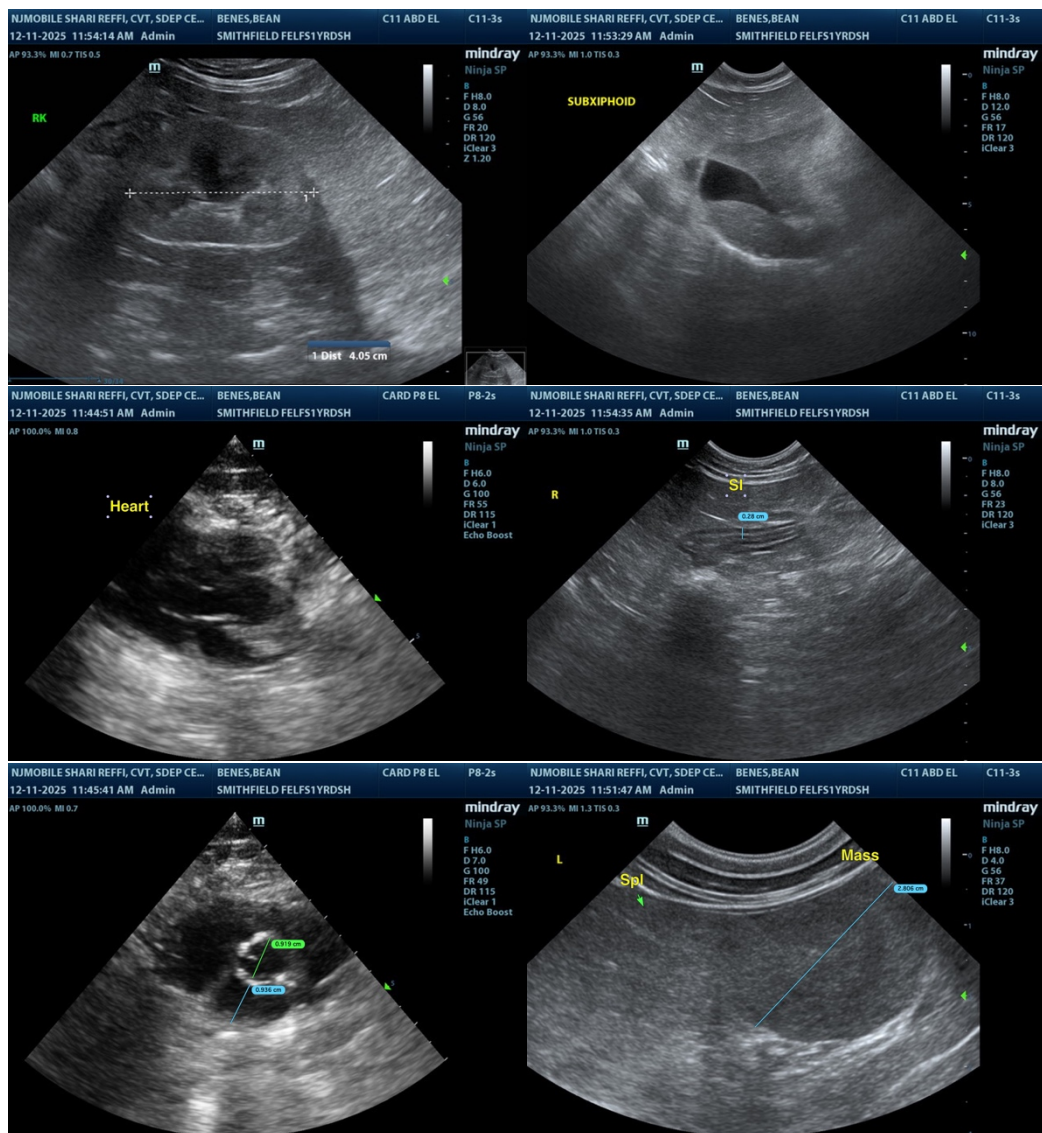
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The splenic mass is nonspecific with considerations including hyperplasia, hematopoiesis, granuloma, splenitis, or neoplasia (sarcoma, round cell neoplasia, other). Given lack of reported gastrointestinal signs or weight loss, the mildly thickened small intestine is nonspecific with potential for patient variant yet may indicate emerging to low-grade enteropathy, i.e. IBD or other. Potential for emerging intestinal round cell neoplasia such as lymphoma may present in similar sonographic manner. Assuming normal clotting status and using 25-gauge needle, splenic mass FNA cytology could be considered for further clarification. If no pathology on 3-view chest radiographs, splenectomy with concurrent full thickness intestinal biopsies warranted.





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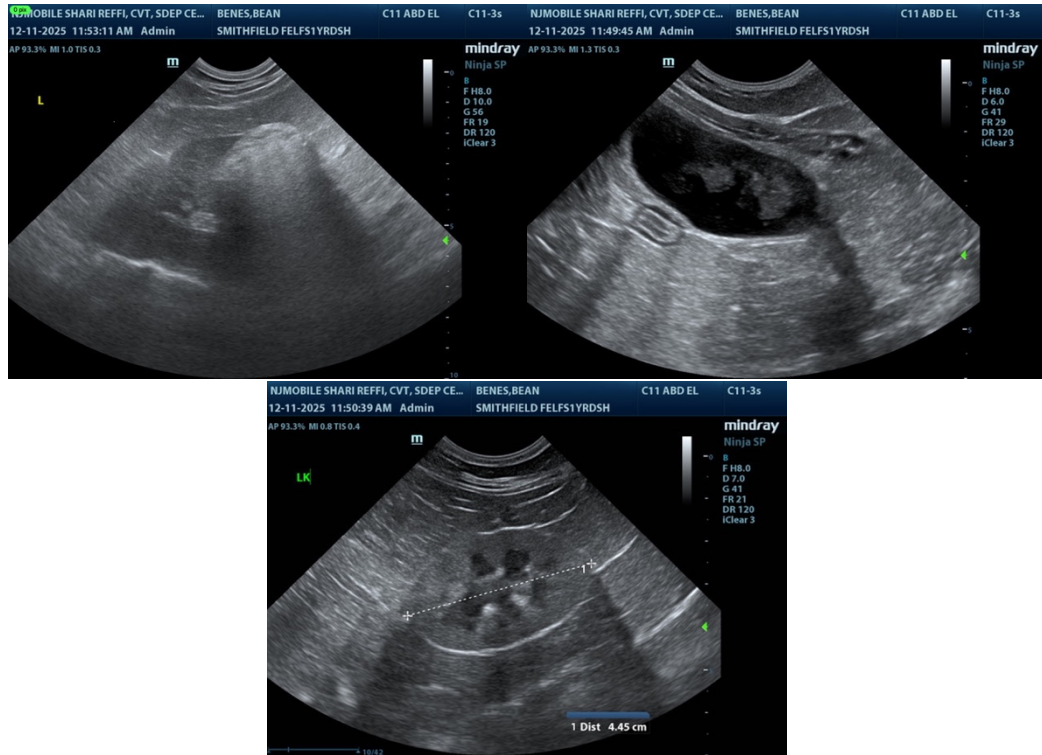
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

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