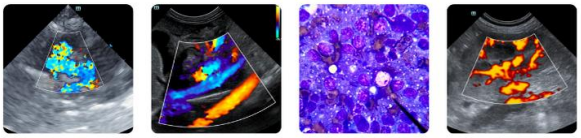


PATIENT

Tibby Stein

SPECIES

Canine

BREED

Miniature Pinscher Mix

SEX

MN

AGE

16Y, 4M

WEIGHT

11.67lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Vincent Ravancho, CVT

HOSPITAL NAME

Summit Dog and Cat Hospital

REFERRING VET

Dr. Capone

INVOICE

75171

DATE

5-27-26

PRESENTING CLINICAL SIGNS

Chronic Heart murmur, recent changes on Chem Screen. Clinical findings - collapsing trachea, anxiety, recent back pain. Current medications - Hydrocodone 5mg SID, Fluoxetine 10mg SID.
Abnormal PE/Chem/CBC/UA Results: ALP = 209, BUN = 77, Ca = 11.6, Chol = 384, Creat = 3.2, Mg = 2.6, Phos = 7.2, Trigylc = 869, PSL=405, T4 <0.5

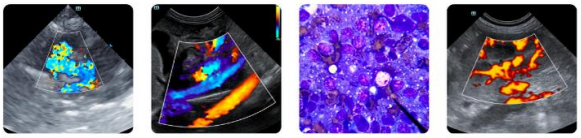
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-mode)	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			NM	1.25	35	66	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (lbs)	**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	NM	1.2	0.7	11.67	2.8	2.7	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented thickening consistent with endocardiosis. Doppler revealed measurable moderate eccentric MR 5.4 m/s. The **left ventricle** presented 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 of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. Normal measured LVOT velocity with aortic valve insufficiency on Doppler. 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. Mild tricuspid insufficiency on Doppler measuring less than 2.0 m/s. 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). Normal measured RVOT velocity with minor pulmonic valve insufficiency on Doppler. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of cardiac / pericardial tumors was visible.

Urinary System



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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. No urine mineral or calculi was present. The ureteral papillae were normal. The ureters were not visible, which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the residual prostate appeared normal and free of pathology.

The area of the iliac trifurcation was free of pathology.

Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Loss of corticomedullary distinction was also present. Variable cysts with larger right kidney cyst measuring 2.3 cm diameter. The left kidney measured 4.4 cm in length. The right kidney measured 5.5 cm in length.

Adrenal Glands

Bilateral symmetrical adrenal gland enlargement with uniformly hypoechoic parenchyma was present. The left adrenal gland measured 1.1 cm width at the cranial pole. The right adrenal gland measured 0.98 cm width at the cranial pole.

Spleen

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Intermittent, well-defined, symmetrical, hyperechoic nodules were present. An example of a nodule measured 0.75 cm diameter. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

Liver/ Gallbladder

The liver presented normal to borderline enlarged in size. The parenchyma of the liver was subjectively increased in echogenicity compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The capsule of the liver was symmetrical in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended in size with thin walls and mild nonorganized gallbladder debris. The cystic and common bile ducts were normal.

Gastrointestinal

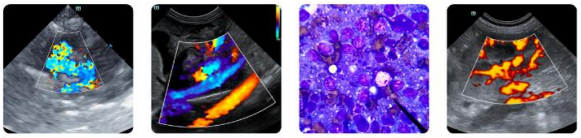
The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty without evidence of retained ingesta, fluid, or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

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

Pancreas

The visualized pancreas presented prominent and heterogeneous with remodeling.



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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Compensated mitral valve disease (B1).
- Tricuspid insufficiency - no evidence of pulmonary hypertension.
- Aortic/pulmonic valve insufficiencies.
- Chronic renal changes with bilateral cysts.
- Bilateral adrenomegaly.
- Hepatopathy.
- Mild nonorganized gallbladder debris (nonmucocele).
- Hyperechoic splenic nodules - consistent with benign criteria i.e. myelolipomas.
- Prominent nonhomogeneous remodeled pancreas.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Prognosis is considered variable and sonographic monitoring is recommended. Recheck echo cardiogram is suggested in 6-12 months, sooner if clinical signs arise. Assessment of systemic BP for evidence of hypertension given aortic valve insufficiency is recommended. Cardiac anesthetic risk is considered mild. If required, the following protocol is suggested:

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

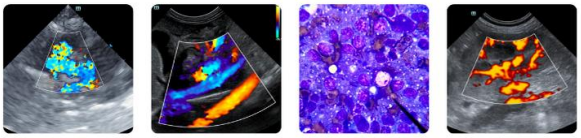
Adrenal workup warranted if clinical signs consistent with Cushing's syndrome. Correlation with urinalysis and suggested renal staging to include screening C/S and UPC level is recommended.

Chronic pancreatitis suspected if concurrent clinical signs or evidence of cranial abdomen or subxiphoid discomfort on palpation.

No obvious evidence of abdominal neoplastic criteria.

CKD therapy with concurrent hepatosupportive medications may be considered.

New Jersey Mobile
FUELED BY SONOPATH VETERINARY ULTRASOUND



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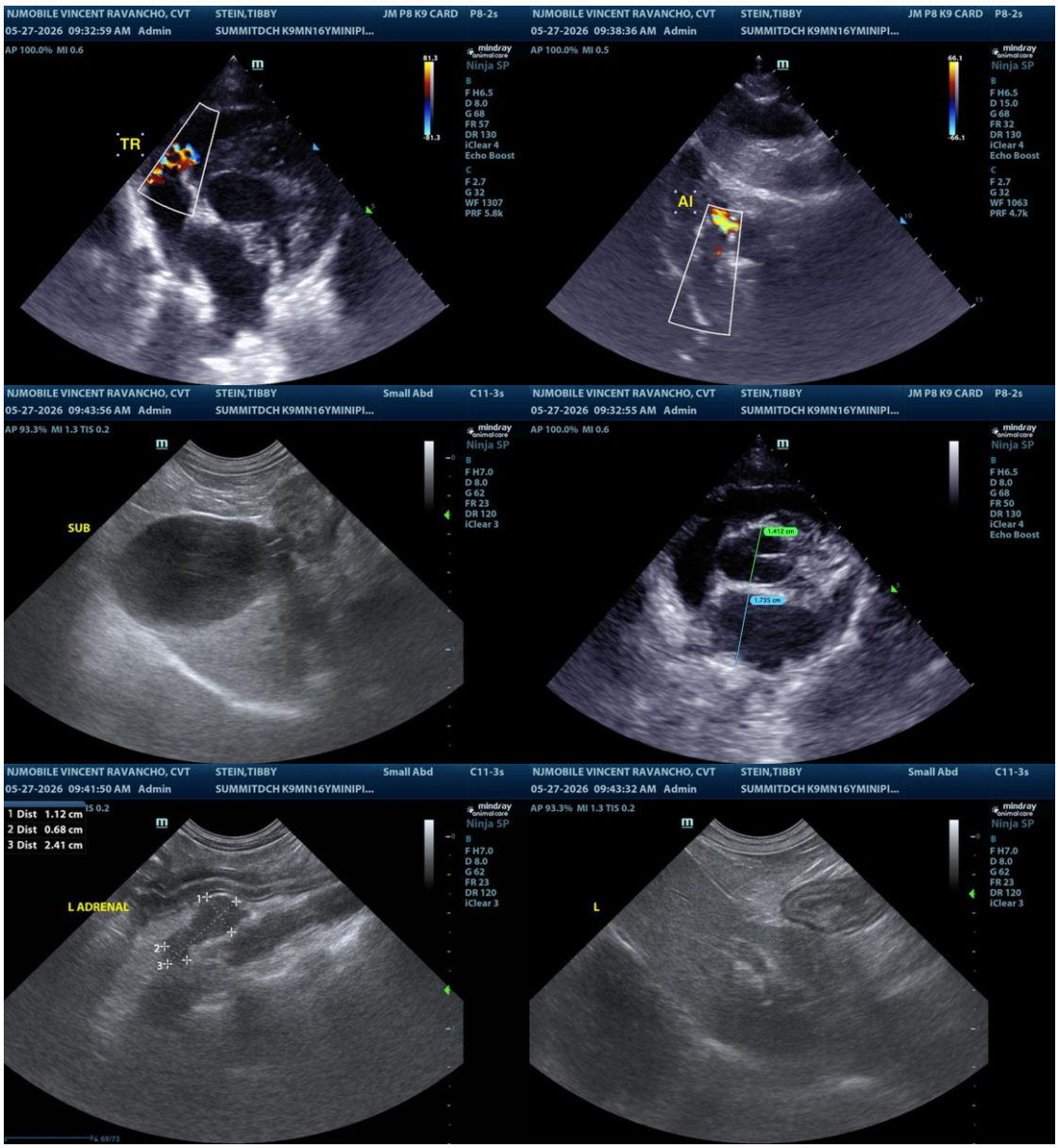

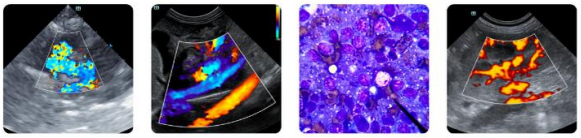

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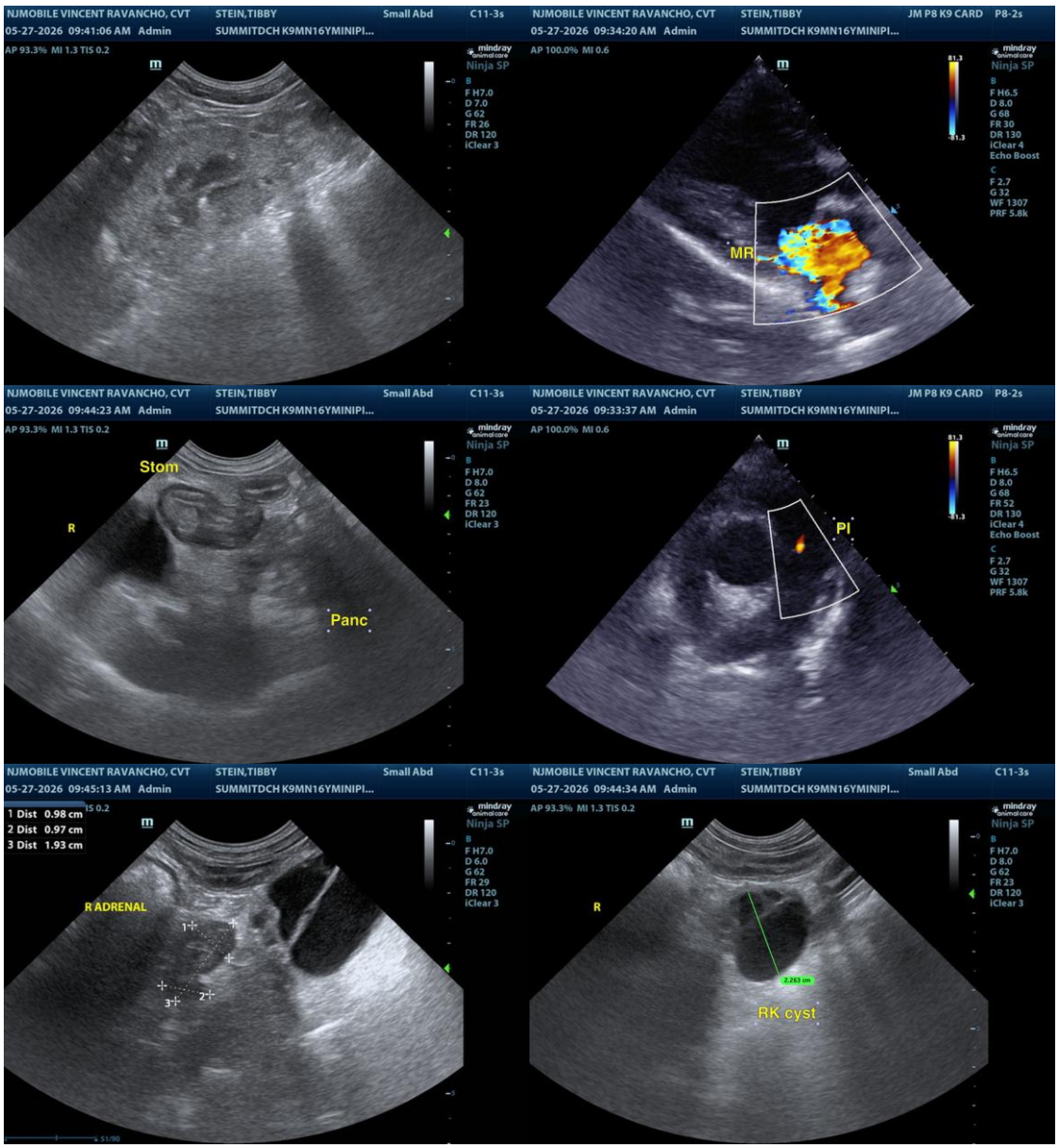

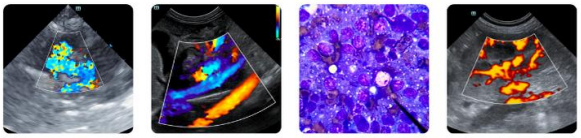

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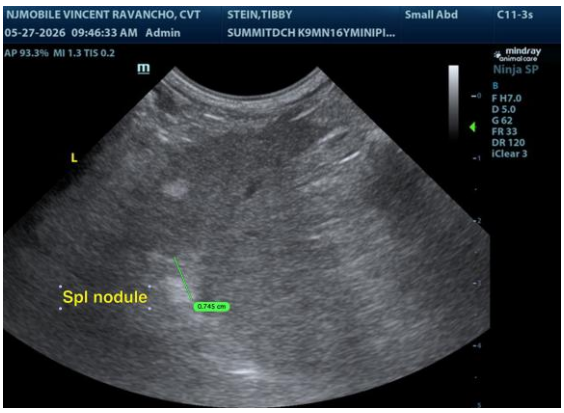

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
info@sonopath.com