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Clinical Sonography & Telecytology
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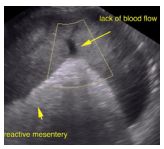

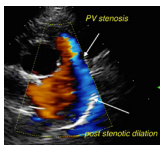

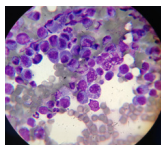
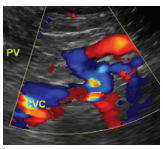

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1-800-838-4268 info@sonopath.com

PATIENT
Spike Kinkead

SPECIES
Canine

BREED
Shih Tzu X

SEX
Neutered Male

AGE
10 Years

WEIGHT
16 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Diane McFadden

HOSPITAL NAME
Advanced Vet Care

REFERRING VET
Dr. Gad

INVOICE
35770

DATE
2/18/22

PRESENTING CLINICAL SIGNS

recent hx of murmur 3/6, unable to hear today; US today to assess splenic nodule and hepatomegaly noted on rads. Severe periodontal disease; plan is to schedule dental procedure next week
Abnormal PE/Chem/CBC/UA Results: decreased rbcs, Hgb, HCT

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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			NM	1.3	60	91	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	160					1.95	

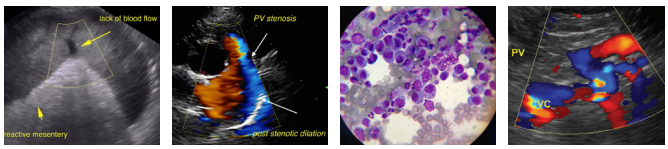
Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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. 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. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding



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the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.84 cm. The left kidney measured 4.54 cm.

Adrenal Glands

The **adrenal glands** appeared slightly enlarged and swollen. No evidence of focal capsular expansion or invasion into the phrenic veins were noted. No overt suspicion of neoplasia was noted. This is considered likely a hyperplastic change associated with stress or adrenal endocrinopathy (PDH). If isosthenuria is persistently present and the patient morphologically suggests Cushing's disease then ACTH testing would be indicated. The right adrenal gland measured 1.84 cm x 0.81 cm at the caudal pole and 0.73 cm at the cranial pole. The left adrenal gland measured 2.04 cm x 0.79 cm at the caudal pole and 0.70 cm at the cranial pole.

Spleen

The **spleen** revealed a hypoechoic irregular nodule at 1.25 cm x 0.56 cm. Another smaller nodule measured 0.22 cm. The remainder of the spleen was unremarkable.

Liver

The **liver** revealed a moderately complex 3.17 cm cystic mass in the right cranial liver. The remainder of the liver was unremarkable. The gallbladder and common bile duct were normal. Minor increased portal markings noted.

Gastrointestinal

Some retention of ingesta was noted in the **stomach**. The small intestine and colon were unremarkable.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Stage B1 valvular disease
- Hepatic mass – likely benign or low-grade cystadenoma possible versus carcinoma, not resectable in its position.
- Mild bilateral adrenal hypertrophy
- Splenic nodules – hyperplasia likely. Round cell neoplasia, emerging hemangiosarcoma possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

FNA of the spleen indicated.

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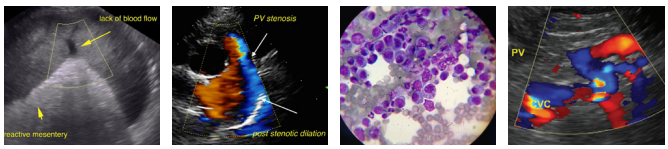

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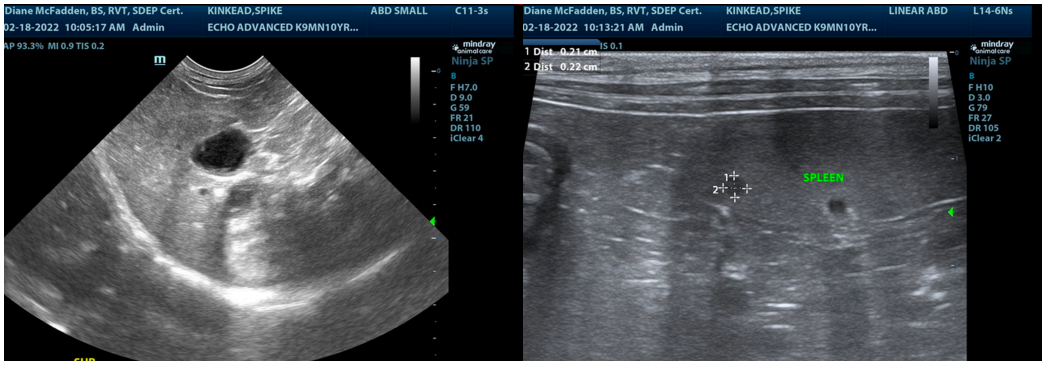

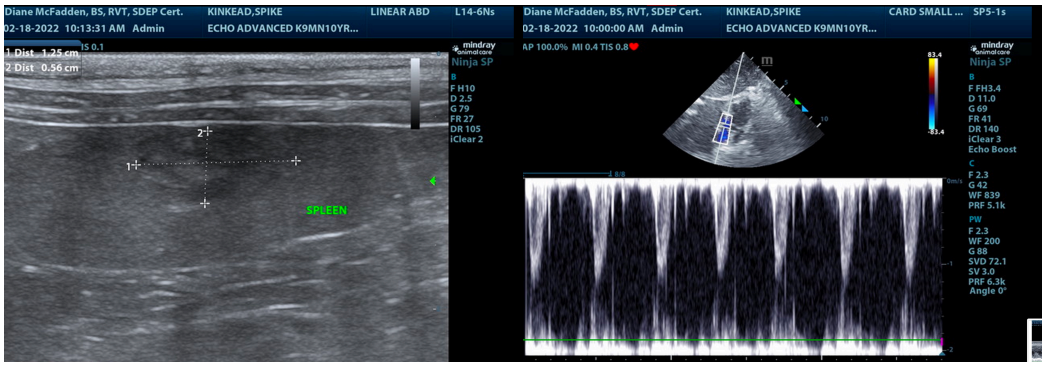

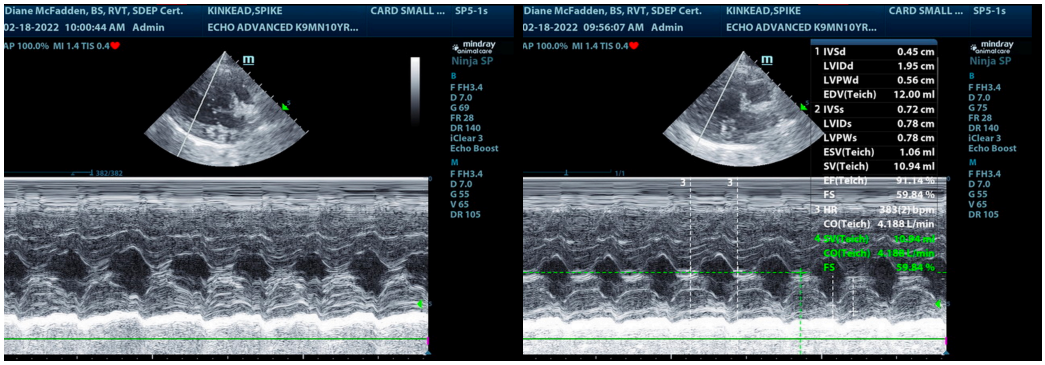

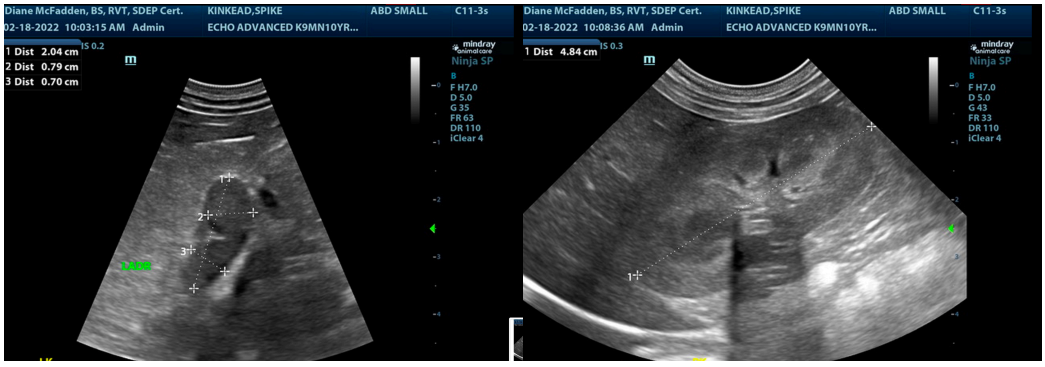

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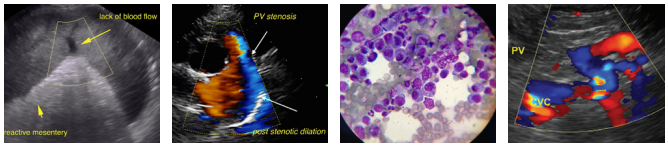

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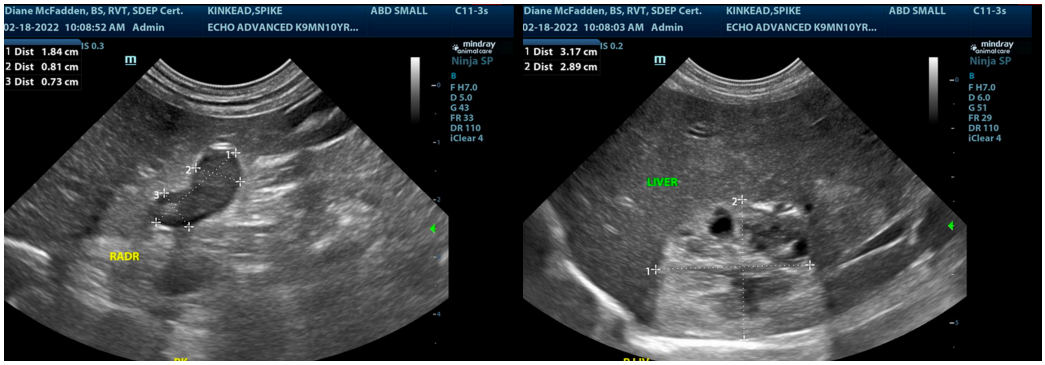

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com