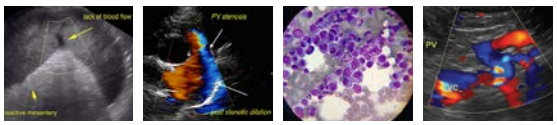
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com



ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Minnie Hawkins

SPECIES
Canine

BREED
Shih Tzu

SEX
Spayed Female

AGE
15 Years

WEIGHT
7.96 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Sara Hansen

HOSPITAL NAME
Corvallis Vet Hospital

REFERRING VET
Dr. Gross

INVOICE
39897

DATE
7/27/22

PRESENTING CLINICAL SIGNS

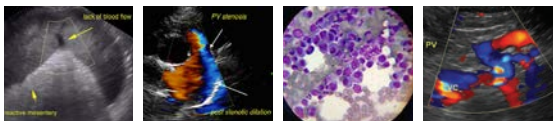
Two years ago pet presented for the first time after being adopted from a woman in hospice care. At that time pet had a murmur, nuclear sclerosis, mammary tumors, significant periodontal disease, and needed to be spayed. Since then she has been spayed, the masses (fibroadenexal dysplasia and mammary gland hyperplasia) have been removed, her teeth have been cleaned and thoracic radiographs were taken. The thoracic radiographs taken 9-15-20 did not show heart enlargement based on VHS. Sometime during the last part of 2021 pet began having periodic collapsing issues that we thought were potentially seizures (Seizures vs syncope) but they have not really responded to keppra. An echo was advised.
Abnormal PE/Chem/CBC/UA Results: Heart Rate and Respiratory Rates 120/30 Blood Pressure Measurments average 138.5 mm hg Current Medications Keppra 100 mg po tid, will be starting carprofen 12.5 mg once daily Radiographic Findings Taken 9-15-20 Lateral VHS ws 9.8 V/D VHS was 9.8

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	3.0	1.5	1.3	37	68	0.1
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	131		0.61		2.9	2.6	

Cardiac Presentation

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy. **Tricuspid** insufficiency noted at 3.0 m/sec. Normal **right atrial** size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickiwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated mild to moderate insufficiency. No significant **left atrial** dilation was noted. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No



PATIENT

Minnie Hawkins

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed Female

AGE

15 Years

WEIGHT

7.96 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

Corvallis Vet Hospital

REFERRING VET

Dr. Gross

INVOICE

39897

DATE

7/27/22

evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. No evident arrhythmic activity was noted during the exam.

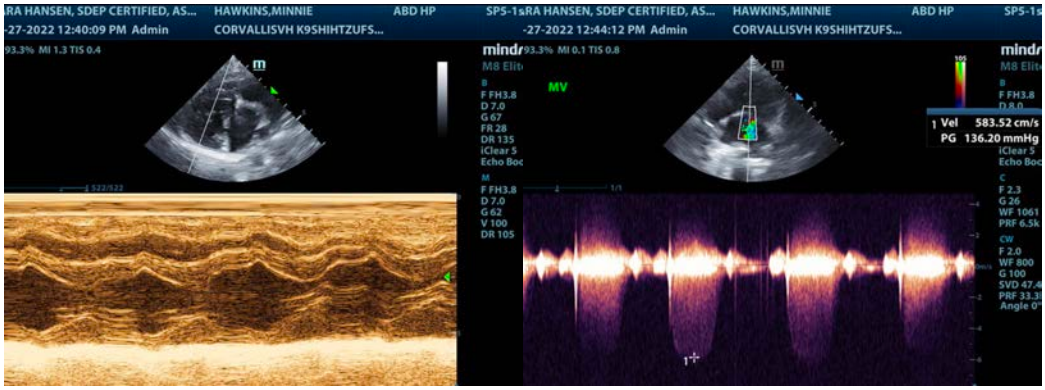
ULTRASONOGRAPHIC FINDINGS

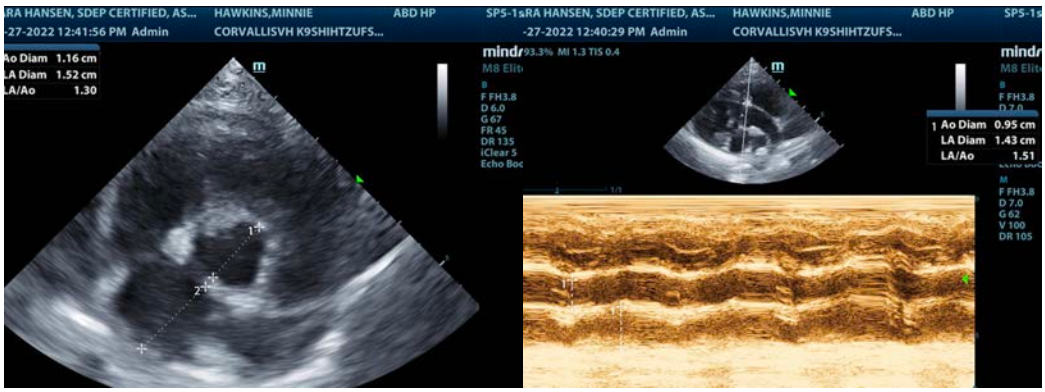
- Mitral and tricuspid insufficiency
- Prominent right atrium

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

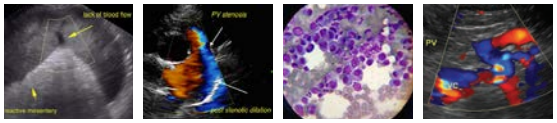
No volume overload. No primary cardiac functional disease at the root of the clinical signs. However, I cannot rule out a paroxysmal arrhythmia contributing to the clinical history. Given that systemic hypertension is not an issue, and pulmonary hypertension is only minor, I recommend holter monitor in this patient to assess if paroxysmal arrhythmia is an issue. No cardiac medications recommended at this time. Recheck echo in 6 months. Assessment for primary respiratory disease based on radiographic findings also indicated, as it may be contributing to right-sided cardiac pressures.

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflo maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.





SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com



ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT

Minnie Hawkins

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed Female

AGE

15 Years

WEIGHT

7.96 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

Corvallis Vet Hospital

REFERRING VET

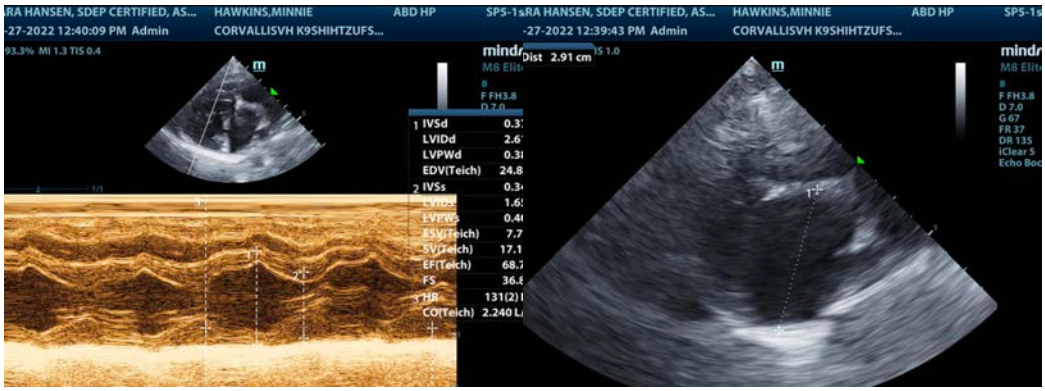
Dr. Gross

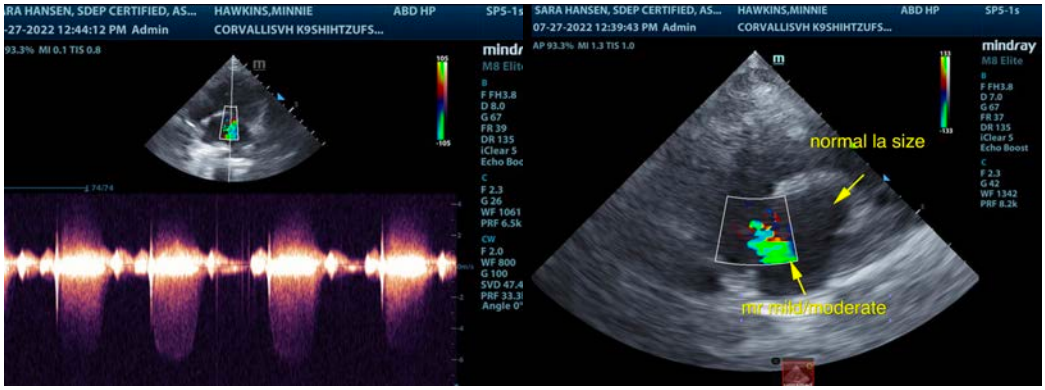
INVOICE

39897

DATE

7/27/22





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