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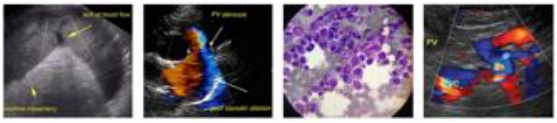


Charleston Mobile Veterinary Services
IMAGING PERFORMED BY
CharlestonMobile.Net 800.403.5408

PATIENT

Sochi Williams

SPECIES

Canine

BREED

Pomeranian

SEX

Spayed female

AGE

8 yrs

WEIGHT

2.92 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

HOSPITAL NAME

Veterinary Specialty Care Blue Pearl Mt. Pleasant

REFERRING VET

Dr. Graham

INVOICE

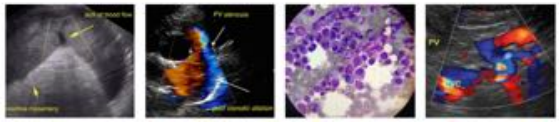
32485

DATE

8/24/22

PRESENTING CLINICAL SIGNS

History: HX: Sochi 8yr FS Pomeranian presenting for difficulty breathing. The past 6 months the rDVM in California was trying to find out what triggers P's difficulty breathing episodes that lead to her stomach becoming bloated and turns blue. 3/2022 they did a CT scan which showed mild rhinitis but otherwise skull & chest was unremarkable, and an abdominal ultrasound with nothing significant found. Gave her Z-Pak and told them to shave her that she was just hot. Sochi was tested for Cushings disease and prescribed her Trilostane a few months ago. Two weeks ago, she was also diagnosed with hypothyroidism and prescribed a thyroid med. P changed rDVM to one in Idaho and that doctor does not agree the breathing is due to cushing disease based on a video O's sent her. The video shows the patient sleeping on her side with a moderate abdominal push and slightly increased RR. Bloodwork 6/2022 showed mildly increased ALP, ALT, GGT, and platelet count. P had seizures the first 1yr as a puppy. Saw a specialist and hasn't had a seizure in 7yrs. E/D well. No diarrhea. O hasn't seen any vomit, but stated that her breath smelled like she may have vomited. Current medications: PE: -Mentation: Bright, alert and responsive. -Hydration: Adequately hydrated -Eyes, Ears, Nose: No ocular discharge OU; scant clear nasal discharge and airflow present bilaterally; mild debris AU; no significant abnormalities noted -Oral Cavity: Grade 2/4 periodontal disease; mucous membranes are pink and moist; CRT 2 sec; no evidence of petechiation or ulceration; no foreign object or mass appreciated -Cardiovascular: No murmur or arrhythmia noted, pulses were strong and synchronous. -Respiratory: Midlly increased RR with inspiratory stridor and abdominal effort, mildly harsh bronchovesicular sounds on all lung fields, no cough elicited on tracheal palpation -Neurologic: PLR (direct & consensual) positive OU, no pain elicited on manipulation and palpation of neck and spine; no obvious neurologic deficits noted (complete neurologic exam not performed). -Gastrointestinal/Urogenital: Tense, mildly distended abdomen with no evidence of mass, but enlarged liver on palpation -Rectal: Normal stool color and consistency with no mass or foreign material evident; anal glands soft and small, not expressed -Peripheral Lymph Nodes: Small, soft, smooth, and symmetrical -Integument: Hair coat in good condition for age and breed (mild alopecia or thin hair), no ectoparasites or dermatitis noted, mild dorsal scale -Musculoskeletal: BCS 5/9, adequate musculature, no evidence of weakness or lameness during ambulation; decreased ROM in both hips and right shoulder Meds: Torb 0.6 mg IV in house; Thyroxine 1 mg- 1 tab PO q24h (given this AM); Trilostane 1mg- 2 tab PO q12h (given last night) Abnormal PE/Chem/CBC/UA Results: CBC: Neut 11.91 K/uL, Plt 753 K/uL -Chem 17: BUN 28 mg/dL, Phos 7.8 mg/dL, ALT 239 U/L, ALP 614 U/L, GGT 56 U/L - TT4: 3.2 within therapeutic range HR- 144/ RR- 40 efforted BP not yet obtained -5 radiographs dated 8/23/2022 were submitted for evaluation. Opposite lateral radiographs of the neck/chest and of the abdomen were obtained along with a ventrodorsal whole body image. Neck: there is increased soft-tissue bulk and decreased gas opacity in the pharynx and larynx. An incidental finding is the absence of numerous teeth. Another incidental finding is chronic luxation of the right shoulder. Thorax: the lungs are not well inflated. There is right-sided cardiomegaly. There is no appreciable left atrial enlargement. Lobar vessels appear normal. There is a diffuse interstitial pattern in the lungs. The tracheal diameter is normal. There is no esophageal dilation. There is increased opacity in the cranial thorax and mediastinal widening that is likely due to fat deposition. There are old fractures of ribs 10, 11, and 12 on the right and 10 and 11 on the left. Abdomen: there is marked hepatomegaly. Visible portions of the spleen, kidneys, and bladder look normal. No G.I. tract abnormality is identified. Stool is present in the colon and there is some ingesta in the stomach. The lumbar spine looks normal. There is marked coxofemoral osteoarthritis secondary to hip dysplasia. The left patella is medially luxated on the lateral view but is in place on the ventrodorsal image. -Assessment: Increased soft-tissue bulk and decreased gas lucency in the pharynx/larynx can be due to swallowing during radiography although it is unusual to see it on both lateral views. Other differentials to consider include soft tissue swelling or the presence of a mass. The interstitial pattern in the lungs is partially due to incomplete lung expansion; the enlarged liver is restricting diaphragmatic movement. Pulmonary fibrosis is a differential. Allergic pneumonitis, vasculitis (tickborne disease or pancreatitis), and pulmonary lymphoma can have a similar appearance but are less likely to be chronic or undiagnosed conditions. There is right-sided cardiomegaly which may be secondary to pulmonary hypertension. There is marked hepatomegaly, consistent with the history of Cushing's disease. Episodes of dyspnea may be due to thromboembolism. Incidental findings include



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chronic right shoulder luxation, old rib fractures, severe hip dysplasia, and intermittent patellar luxation. Sedation and visual examination of the pharynx/larynx is recommended. Ultrasound measurements of main pulmonary artery pressure are suggested to determine if sildenafil is indicated. -Abdominal Ultrasound Consult: Hyperechoic hepatomegaly, most consistent with patient history of hyperadrenocorticism. DDx: vacuolar hepatopathy, hepatitis, less likely neoplasia Bilateral adrenomegaly. Most consistent with hyperplasia (secondary to pituitary-dependent hyperadrenocorticism). DDx: chronic illness Severe gallbladder sludge, occupying majority of the gallbladder lumen - DDx: cholestasis, early mucocele, cholecystitis, other. Bilateral chronic nephropathy (loss of corticomedullary distinction) - DDx: chronic, age-related degenerative disease or interstitial nephritis

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, mild **tricuspid** regurgitation, and 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 **mitral valve** was not significantly insufficient and no significant **left atrial** dilation was noted. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. No 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. The hepatic veins were noted dilated nor was the vena cava.

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		3.0 max	1.15	1.3	45	90	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	110	1.2	0.9	2.92	2.0 max	1.7	

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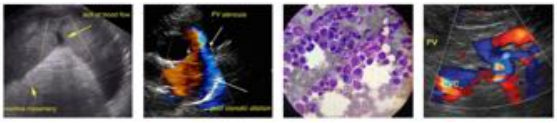

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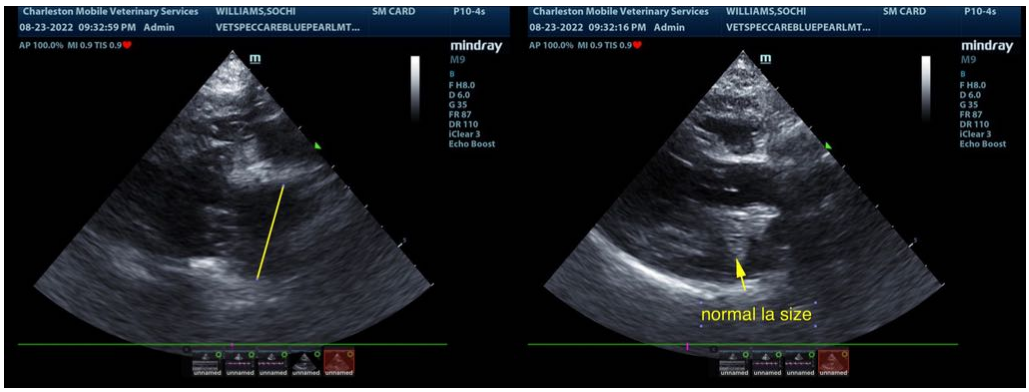
ULTRASONOGRAPHIC FINDINGS

Mild cor pulmonale with mild tricuspid insufficiency.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There was no evidence of clinical pulmonary hypertension. Primary respiratory therapy is warranted. There is no indication for treatment or for pulmonary hypertension at this time. Technically very early pulmonary hypertension is present with a TR velocity of 3.0 m/sec. However, this is exceedingly mild and common for this breed and not at a treatable level. Recheck echocardiogram is recommended in 6 months.

Should an acute on chronic episode occur such as a thromboembolic event or other primary acute causes of sudden onset of increased pulmonary pressures then pulmonary hypertension may develop in the future to a clinical state; however, it does not appear to be clinical at this point.



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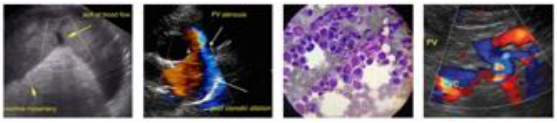

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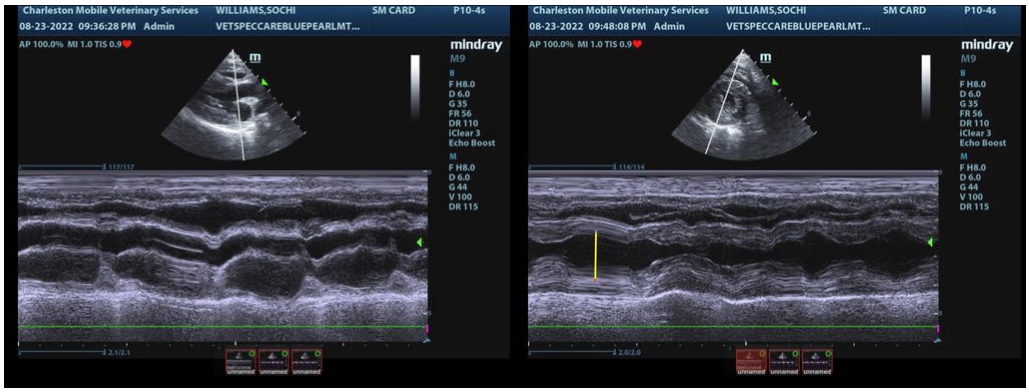

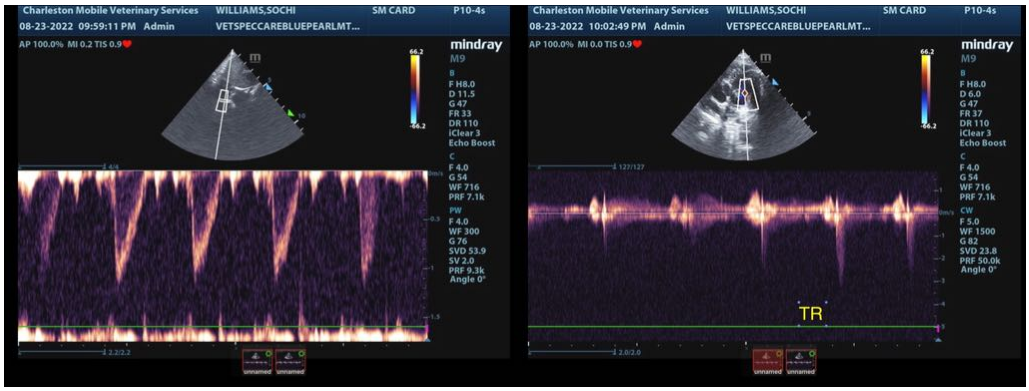

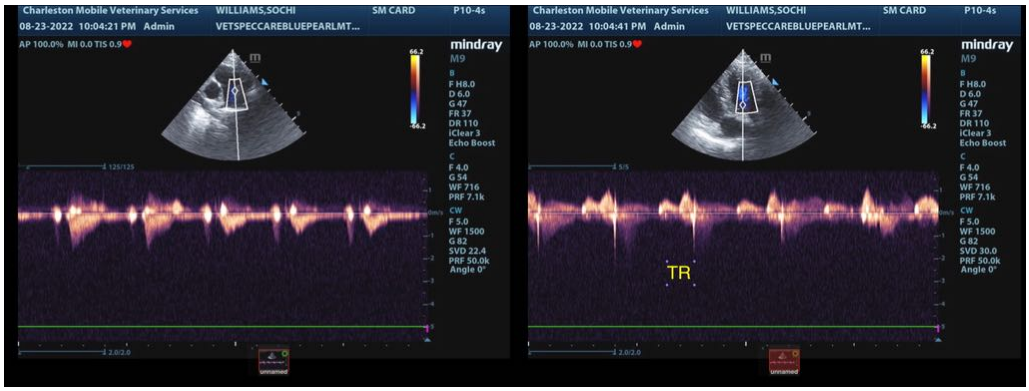

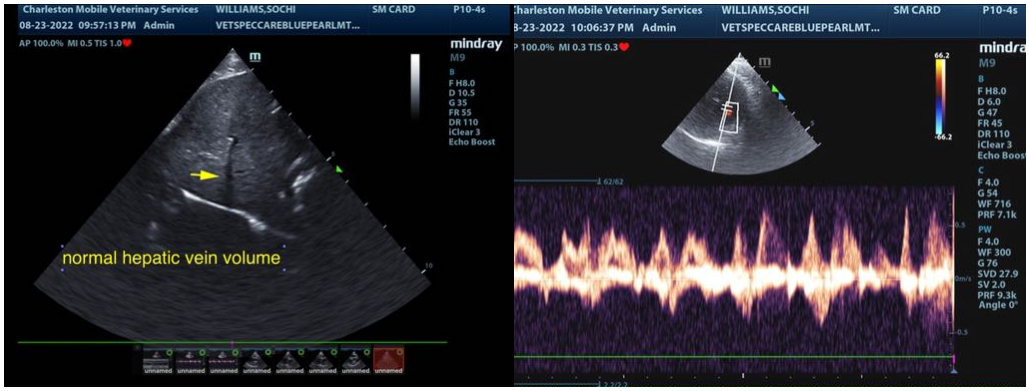

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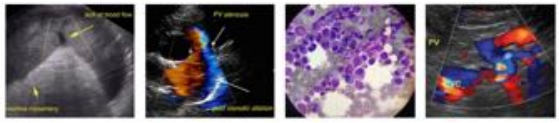

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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