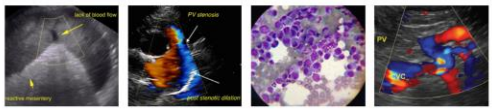
PAUS
Pet Animal Ultrasound Service
4paus.com 781-635-5677



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

PATIENT
Pippa Geiger

SPECIES
Canine

BREED
English Bulldog

SEX
Female Intact

AGE
~7.5 years

WEIGHT
59.7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wood River Animal Hospital

REFERRING VET
Dr. Schuelke

INVOICE
21120

DATE
9/20/21

PRESENTING CLINICAL SIGNS

History: Presents for coughing x one month. Previous hospital diagnosed kennel cough - sent home with cough tabs and antibiotics. Still coughing but now has left eye discharge. Acting normal otherwise. BP: 145mmHg. No murmur. Radiographs: cardiomegaly VHS 12.4 (technically normal for bulldog range) but increased from prior radiographs; hypoplastic trachea. Allergic airway disease vs cardiac vs pneumonia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is mildly dilated, although somewhat obscured by the mass.
Mitral valve: The mitral valve is mildly thickened with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The RV is mildly dilated with prominence in the short axis view.
Right atrium: Moderate RA dilation.
Tricuspid valve: The tricuspid valve appears normal with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension.
Pulmonic valve/Pulmonary artery: The diastole MPA is suspected to be occluded by a large mixed echogenicity mass (5.4cm x 4.0cm) overlaying it.
Pericardium/other: Scant pericardial effusion. Small volume pleural effusion noted.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 160bpm.

2-Dimensional Measurements

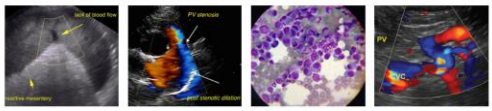
Ao diam (cm)	2.3
LA diam (cm)	3.3
LA:Ao (Swe)	1.4
IVS thickness (cm)	1.2
LVID diastole (cm)	4.2
PW thickness (cm)	1.2
LVID systole (cm)	2.4
FS (%)	42

Doppler Measurements

PV Vmax (m/s)	0.76
AoV Vmax (m/s)	NM
MR Vmax (m/s)	NA
TR Vmax (m/s)	2.7
TR PG (mmHg)	30

INTERPRETATION OF THE FINDINGS

A large soft tissue lesion is identified near the heart base. The mass appears extra-cardiac yet intrapericardial, with compression of the distal MPA suspected. This is leading to pressure overload of the right heart, with fluid accumulating in the pericardium, pleural space. There is also mild mitral and tricuspid regurgitation, which are clinically insignificant at this time. No additional issues are identified; however, it is important to note that the mass is obscuring full evaluation of the cardiac structures.



PATIENT
Pippa Geiger

SPECIES
Canine

BREED
English Bulldog

SEX
Female Intact

AGE
~7.5 years

WEIGHT
59.7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wood River Animal Hospital

REFERRING VET
Dr. Schuelke

INVOICE
21120

DATE
9/20/21

The mass is heart based in origin, which in light of the signalment is likely a chemodectoma. Other possibilities including ectopic parathyroid tumor cannot be definitively ruled out. Further diagnostic imaging may be useful understand the definitive origin and thoracic involvement of the mass (CXR, CT, FNA, etc.).

Going forward, regardless of tumor type the clinical issues are due to a mechanical obstruction of flow through the right heart, which confers a poor to grave prognosis as the mass continues to grow. The mass will likely continue to increase in size, further worsening the obstruction and ultimately leading to decompensation. The best we can do is remove effusions through tapping when needed and use medications for congestive heart failure to help slow fluid accumulation. I am cautiously optimistic that we can decrease fluid volume by some degree for the short term, however the size of the mass and compressive nature should be considered when electing to treat complications down the road. Diuretics are a band aid over a much bigger issue and may or may not be effective. Please note medications below.

There are some options for palliating this type of cancer, including radiation and chemotherapy. Full systemic screening to assess for metastasis may be useful (AUS, labs, etc.) when deciding what is appropriate. Consultation with an Internist or Oncologist is recommended in light of echo results. Full systemic screening for metastasis is warranted (AUS, etc).

High risk will always remain for recurrent effusions (pericardial, pleural or abdominal) and development of arrhythmias/sudden death at home. Monitor at home for progressive abdominal distention, labored breathing and/or lethargy and collapse.

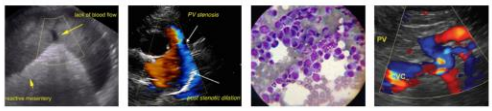
RECOMMENDATIONS

- Institute Lasix 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Institute Pimobendan 0.3mg/kg PO q12h.
- Institute ACE-I 0.5mg/kg PO q12h.
- Consider Hydrocodone if needed for quality of life.
- Consider consultation with an Oncologist or Internist for chemotherapeutic options, etc.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Monitor renal panel/BP and amount of effusion in 1-2 weeks, sooner if any clinical decline.
- Recheck echocardiogram in 3-4 months pending clinical improvement.

IMAGES



PATIENT
Pippa Geiger

SPECIES
Canine

BREED
English Bulldog

SEX
Female Intact

AGE
~7.5 years

WEIGHT
59.7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

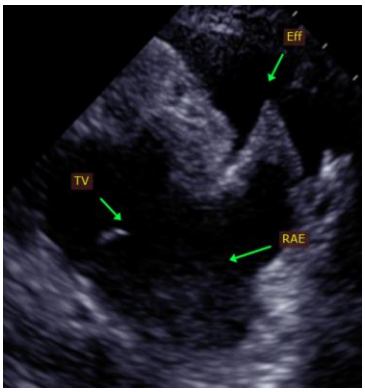
IMAGING PERFORMED BY
Pamela Harrigan, RDCS

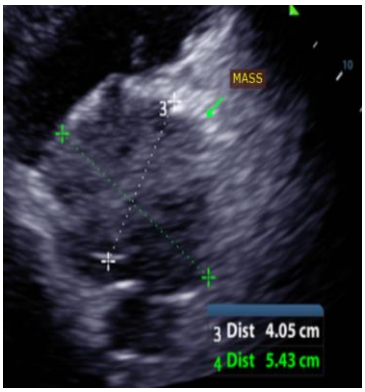
HOSPITAL NAME
Wood River Animal Hospital

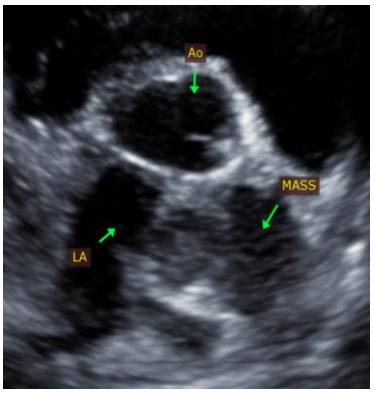
REFERRING VET
Dr. Schuelke

INVOICE
21120

DATE
9/20/21







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. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com