

Unusual case of right sided infective endocarditis post dental implants

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Case: LT

- Admitted to SVHM ICU 2 Jan 2025.
- Transferred from Western Health Sunshine Hospital.
- TTE at Sunshine Hospital revealed tricuspid valve endocarditis.
- Social history – lives at home alone. Drives; takes walks up to 2hrs; attends English school 4 days/week; non smoker; no IVDU.



Que?

- Impression: Right sided native TV IE with large burden of pulmonary septic emboli and multi-organ failure. No evidence of left sided vegetations but unable to exclude.....

TOE in ICU

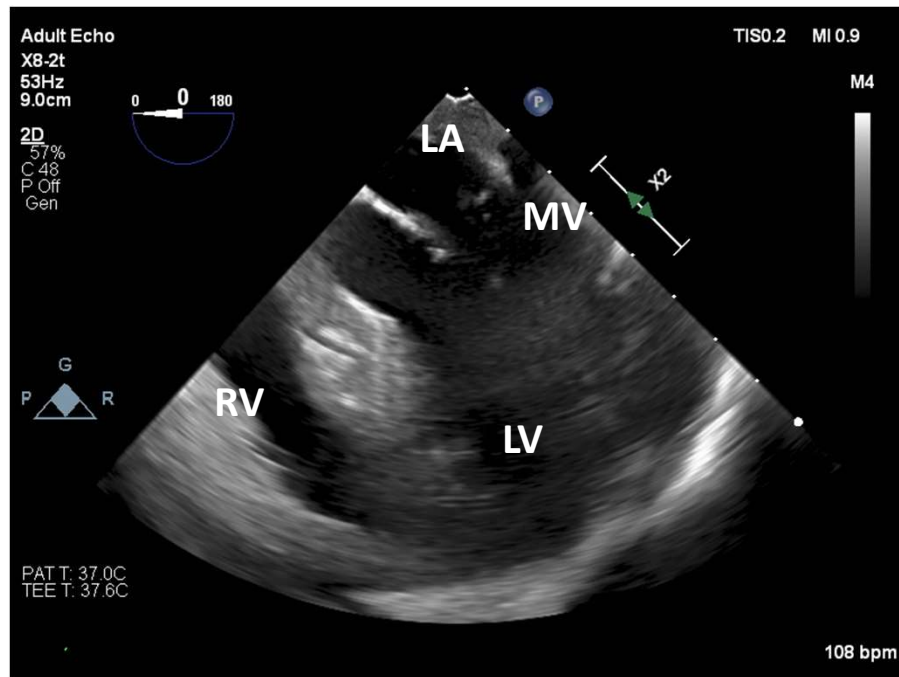


Image 1: mid-oesophageal 4 chamber. LV function.

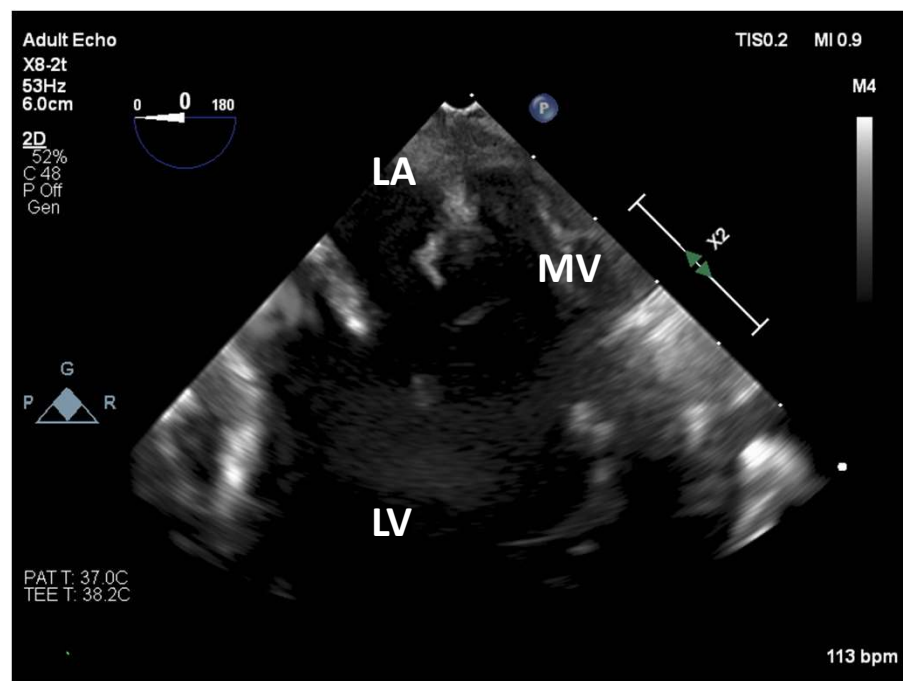


Image 2: mid-oesophageal 4 chamber. Zoom on MV.

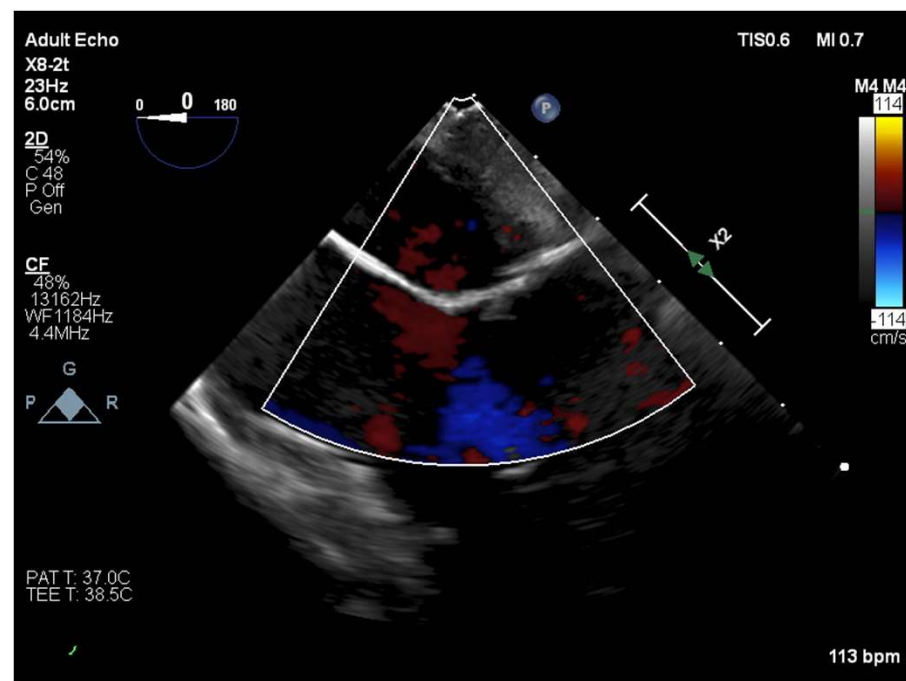


Image 3: colour box on MV.

TOE in ICU

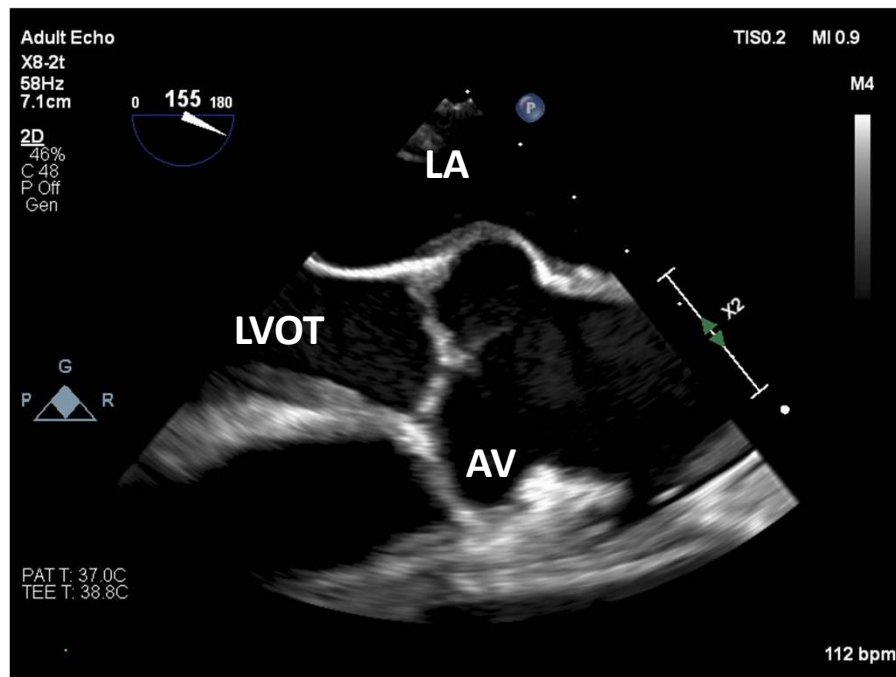


Image 4: mid-oesophageal LAX. Zoom on AV.

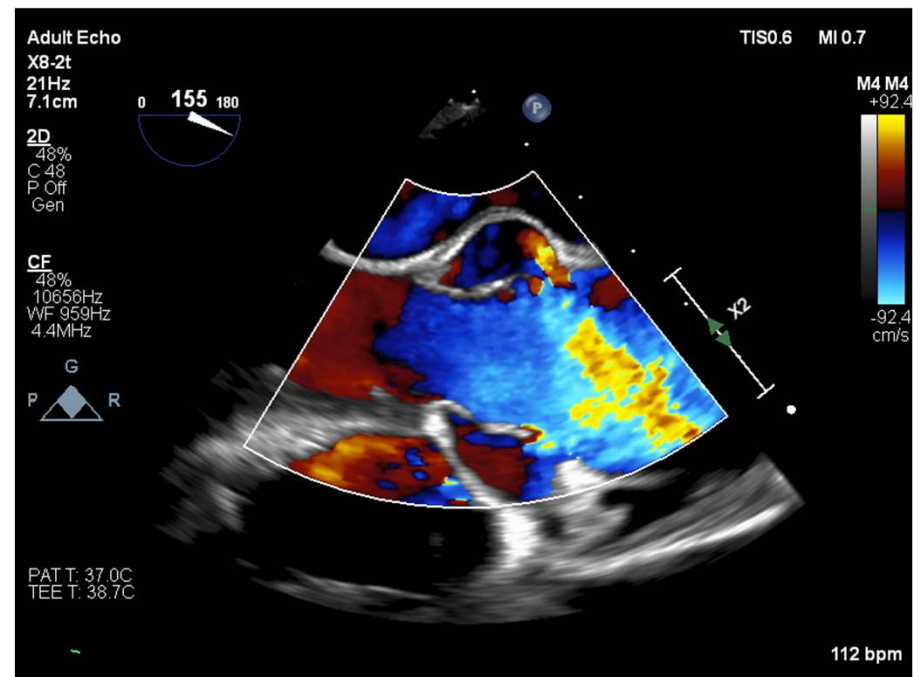


Image 5: colour on AV.

TOE in ICU

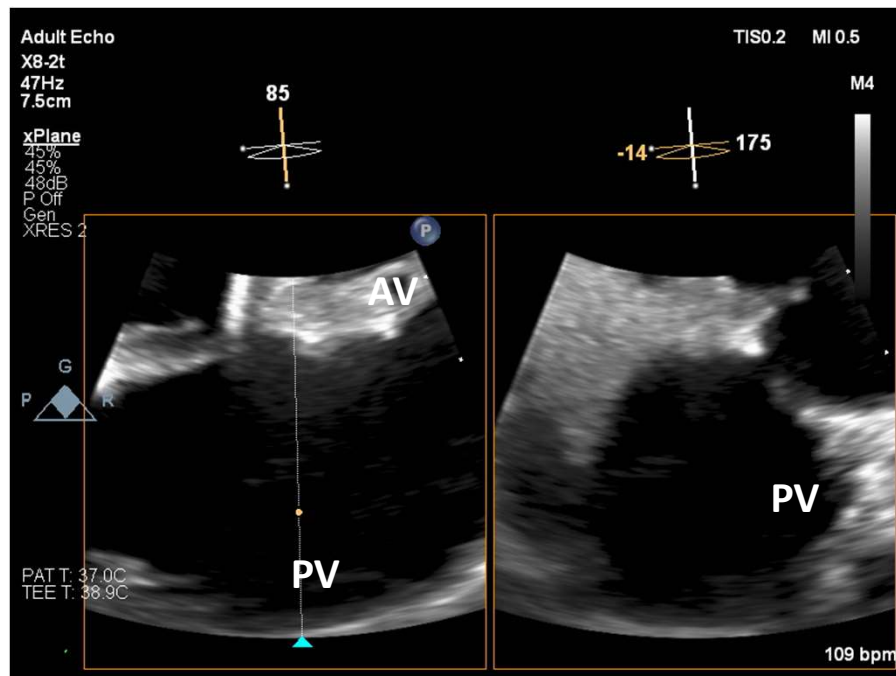


Image 6: x-plane on PV.

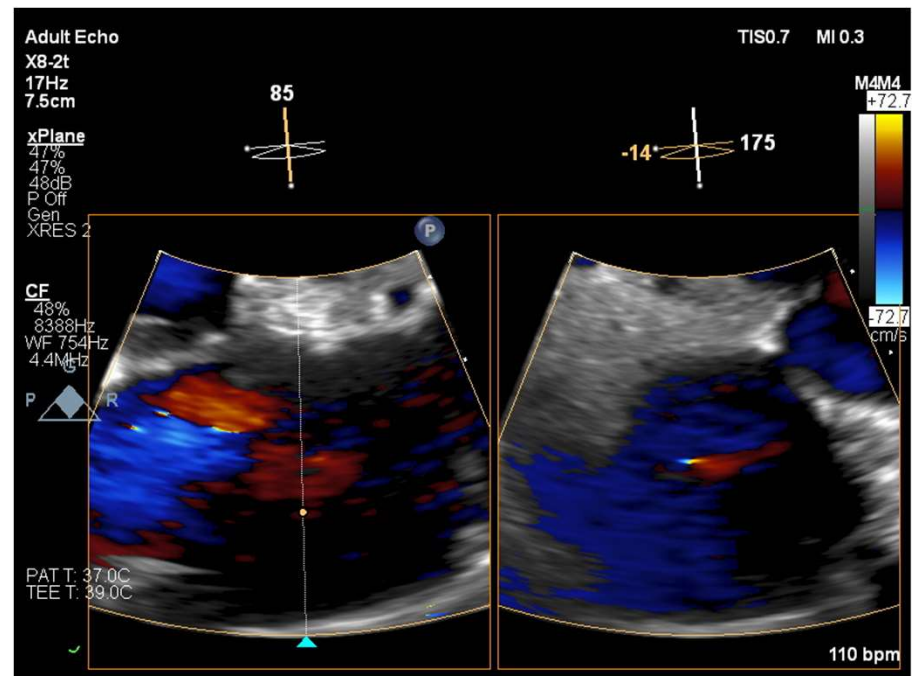


Image 7: colour box on PV.

TOE in ICU

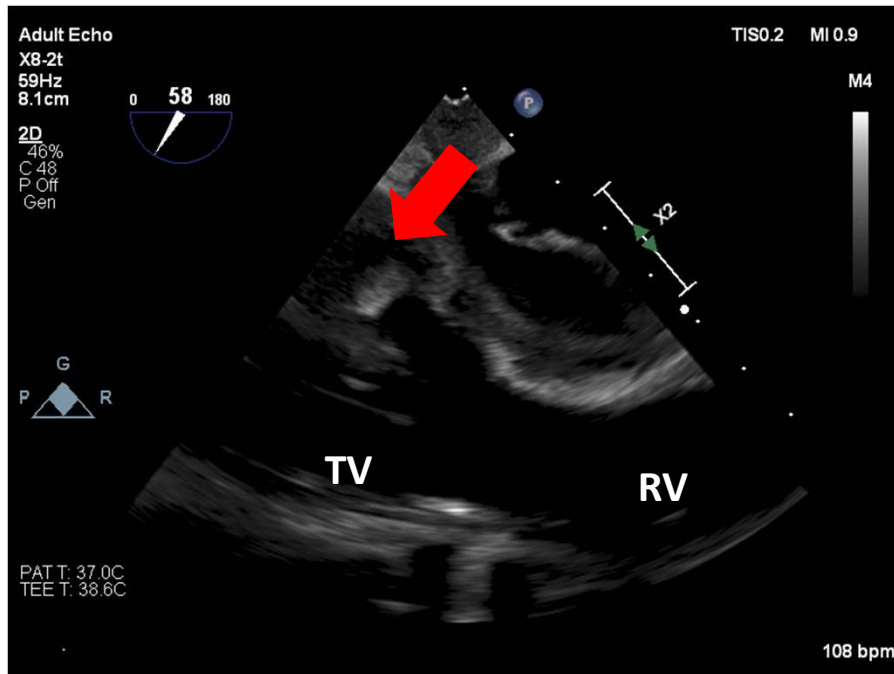
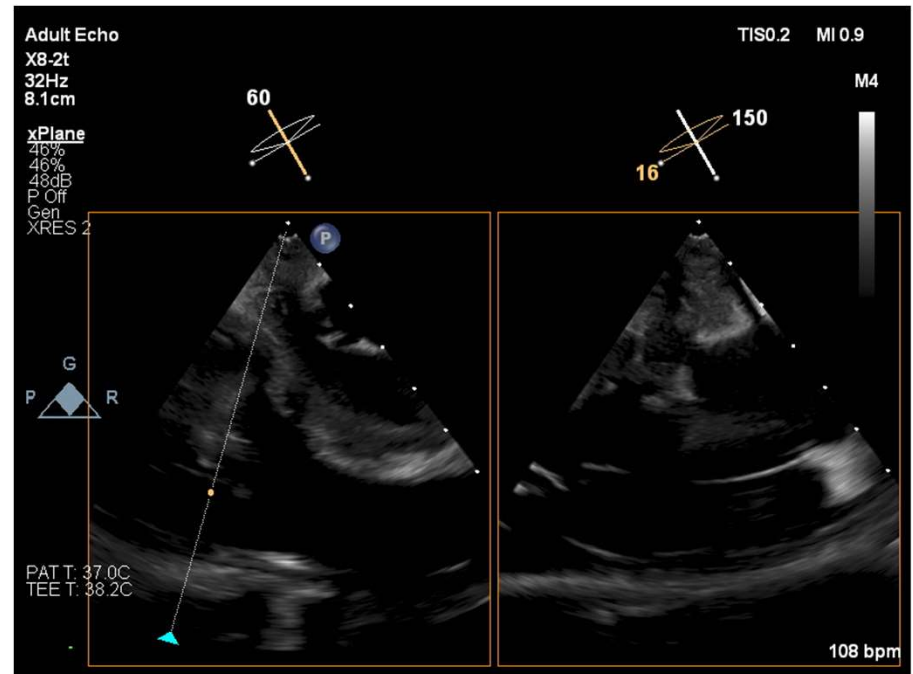


Image 8: mid-oesophageal 4 chamber. RV inflow.



Images 9: x-plane across RV inflow and TV

TOE in ICU

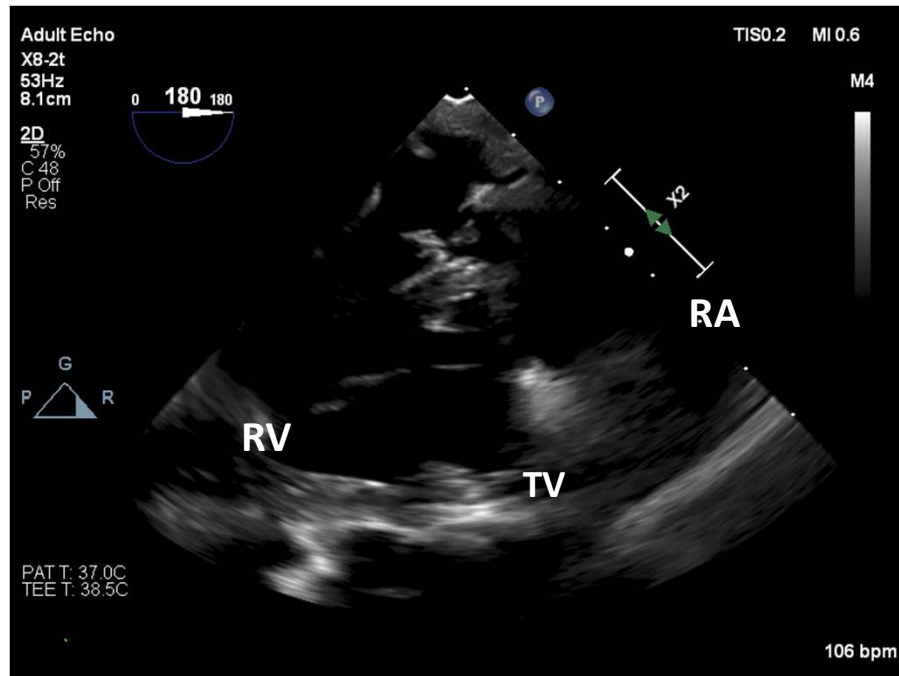


Image 10: trans-gastric RV inflow.

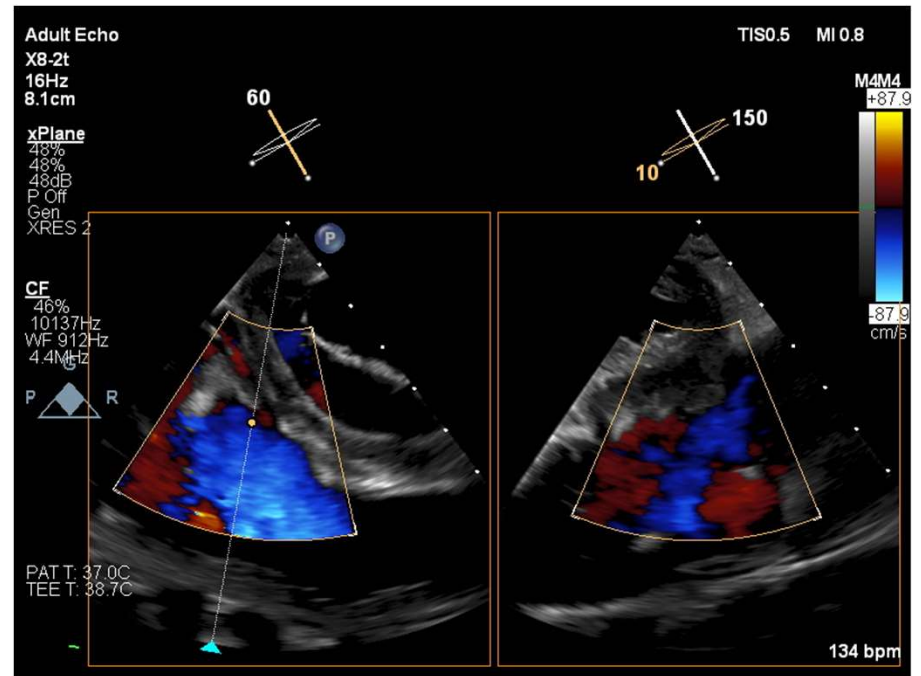


Image 11: x-plane colour across TV.

TOE in ICU

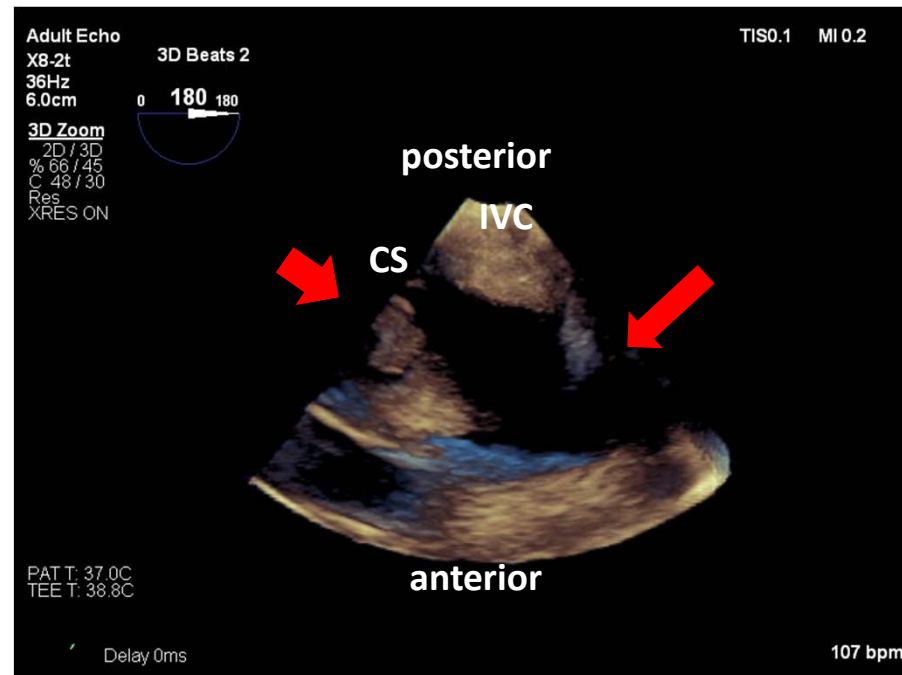


Image 12: 3D showing valvular vegetations as well as the large serpiginous vegetation..

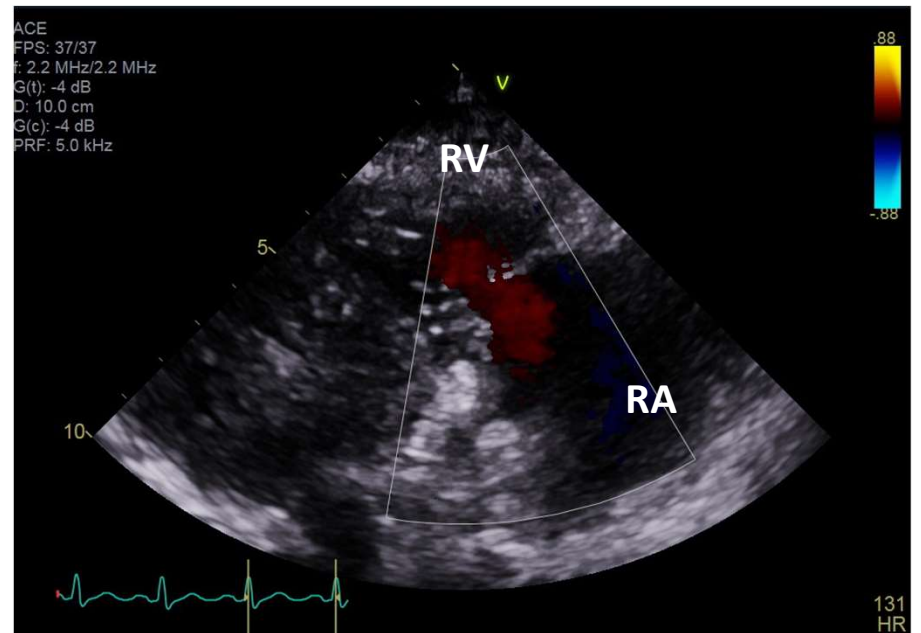
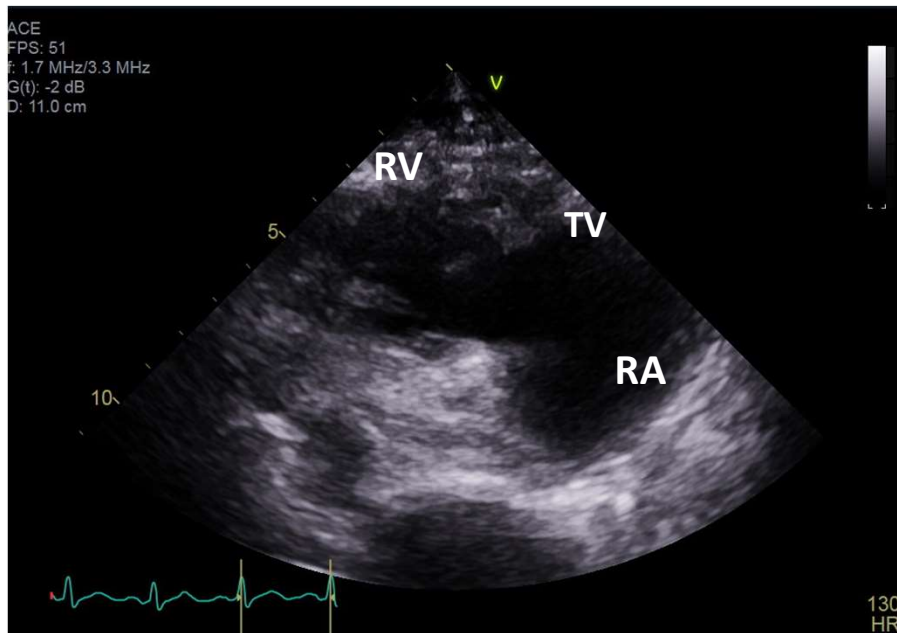
Làm sao?

- Went to Vietnam 1 month earlier for dental implants (daughter reports due to teeth falling out).
- Returned home well on 19 Dec 2024.
- First reported feeling unwell 27 Dec 2024 – headache.
- 29 Dec 2024 - weakness, nausea, generalised pain and headache.
- BIBA to Footscray 31 Dec 2024 - lethargic and petechial
- Found to be in septic shock with multi organ failure, MSSA bacteraemia TTE this AM: multiple large echogenic massess - TV ant leaflet 1.1 x 1.8cm, septal 0.9 x 1.6cm, IAS 2.3 x 0.5cm. Mild TR. Normal LV function. No left sided vegetations seen but unable to exclude.



Image courtesy of google images

TTE 1 Week in ICU ...



Images 13 and 14: PLAX RV inflow; and colour box across TV.

TTE 1 Week in ICU ...

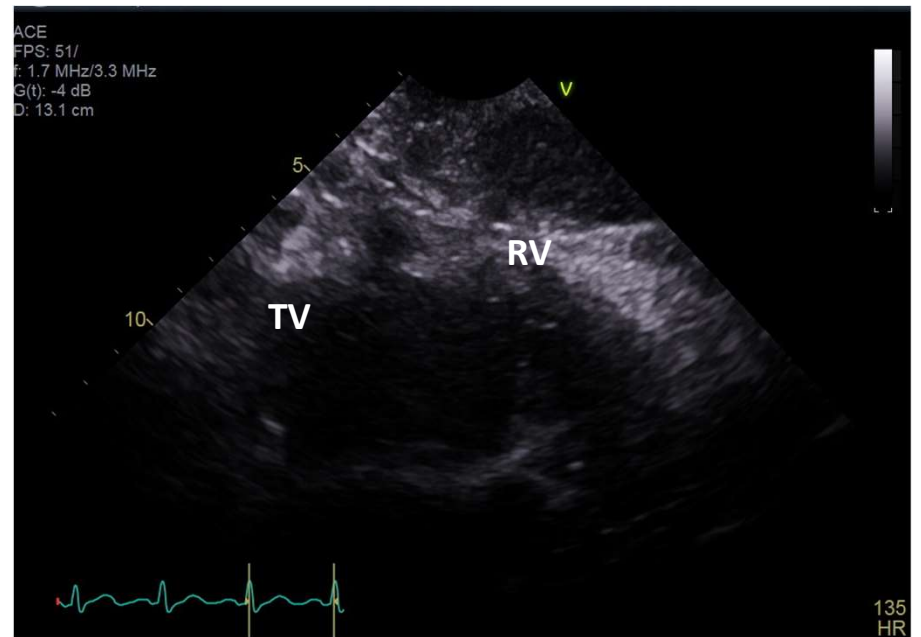
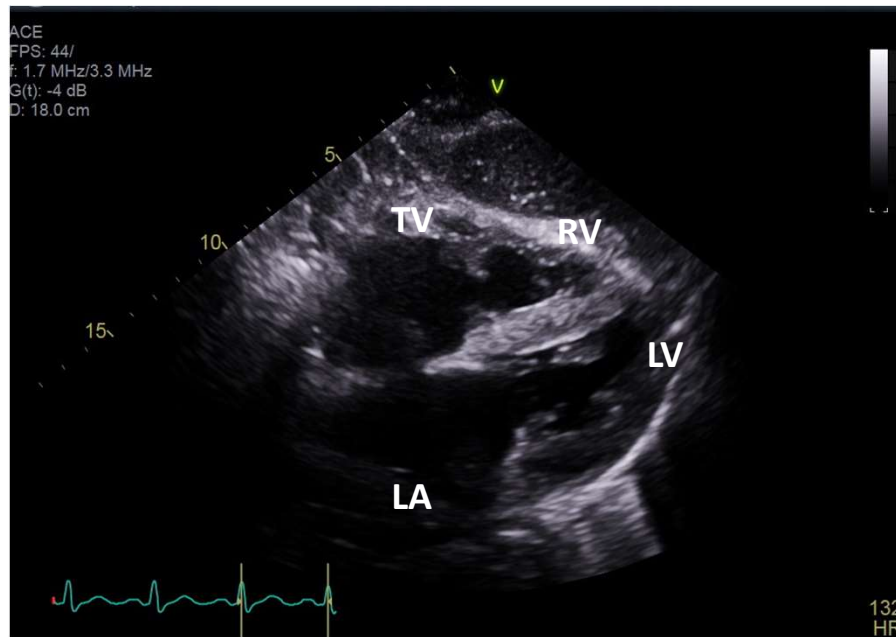


Image 15 and 16 : Subcostal 4 chamber. TV vegetations.

TTE 1 Week in ICU ...

- Report summary: no significant changes

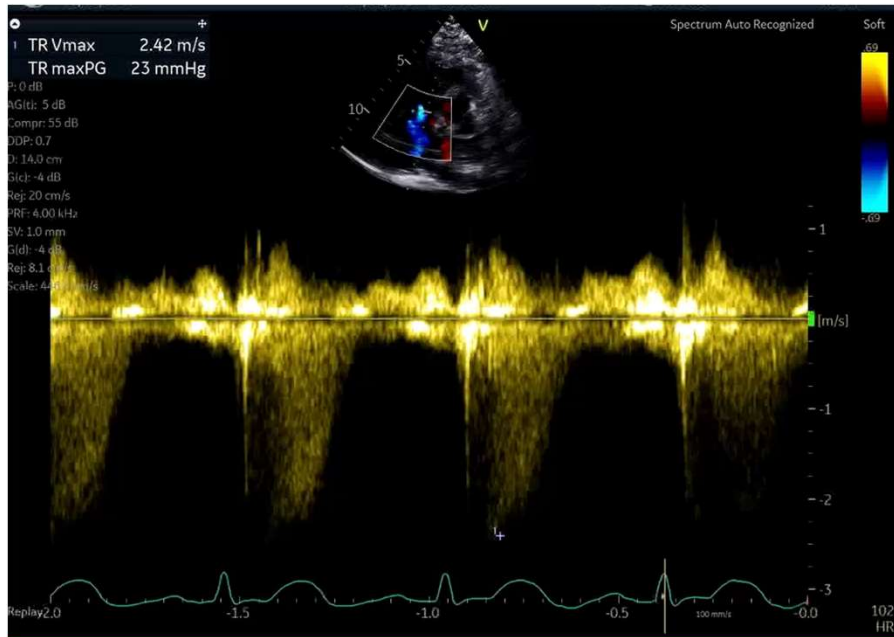


Image 17: spectral Doppler – TR Vmax.

TTE 2 Weeks in ICU ...

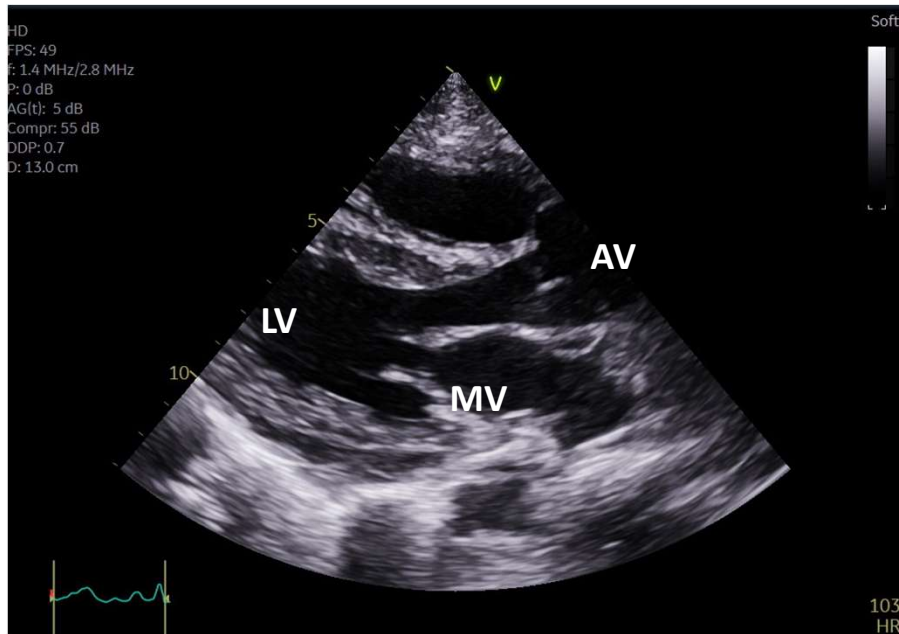


Image 18: PLAX LV.

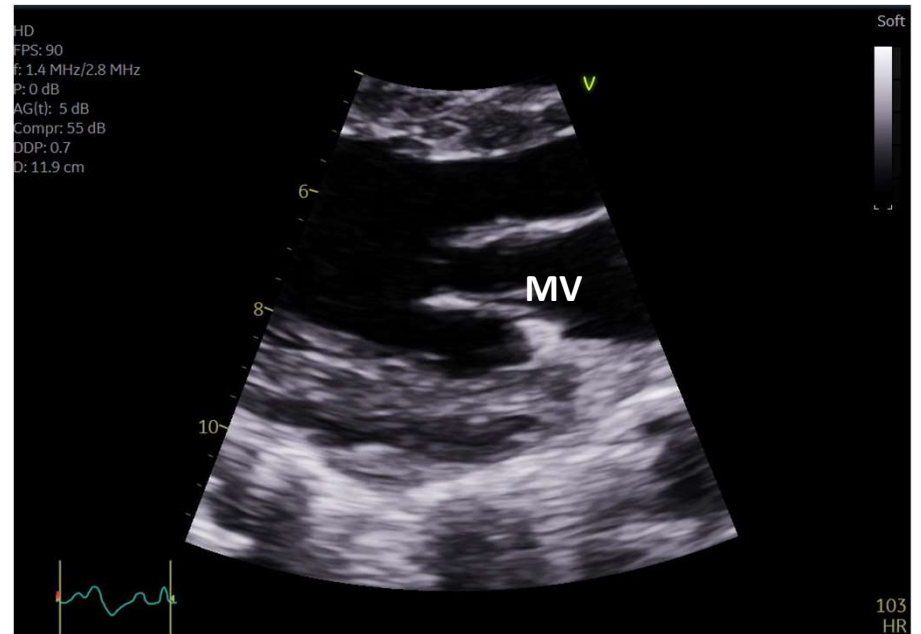
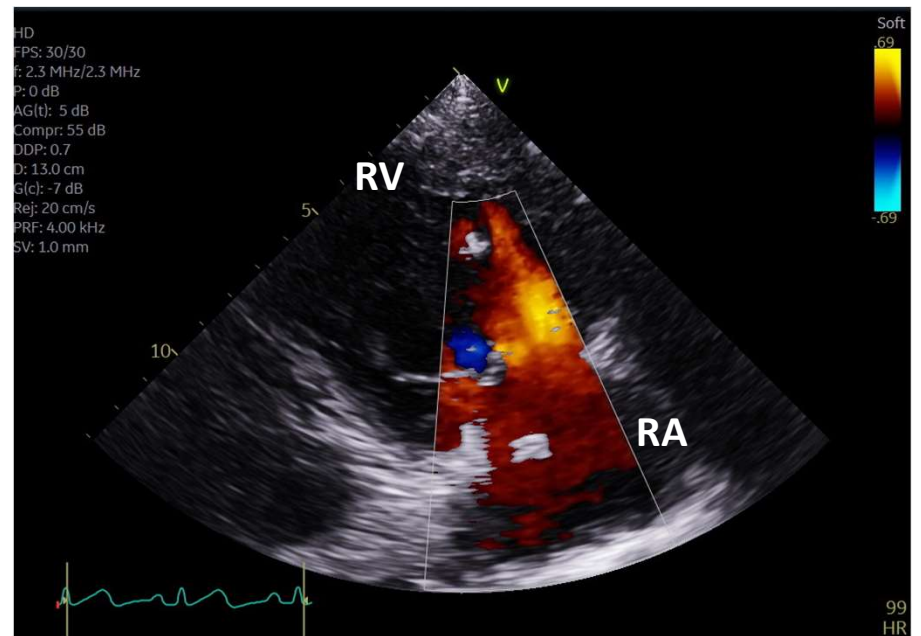
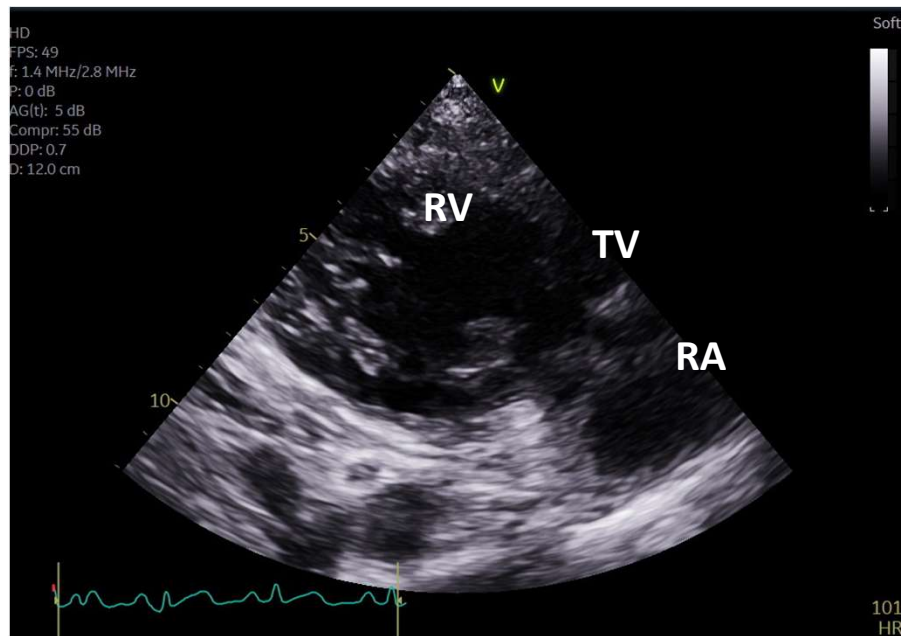


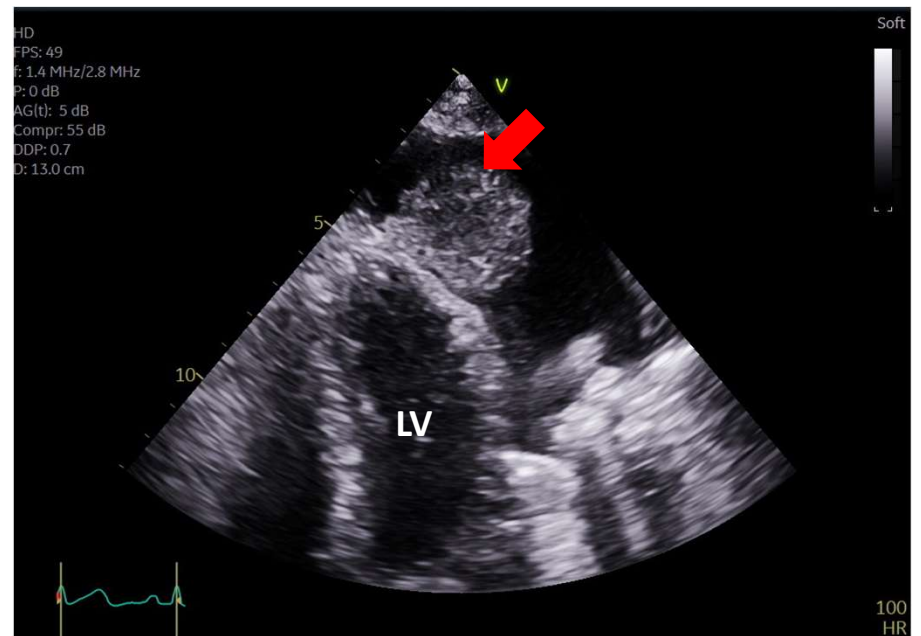
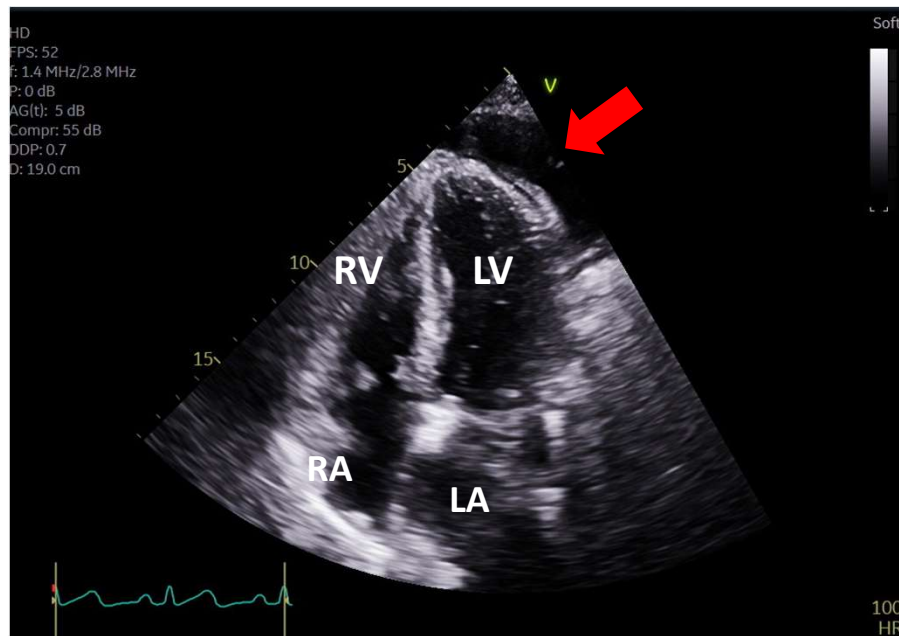
Image 19: PLAX zoom on MV.

TTE 2 Weeks in ICU ...



Images 20 and 21: PLAX RV inflow plus colour box across TV.

TTE 2 Weeks in ICU ...



Images 22 and 23: apical 4 chamber views showing left lateral pleural effusion and heterogenous cystic pulmonary lesion.

TTE 2 Weeks in ICU ...

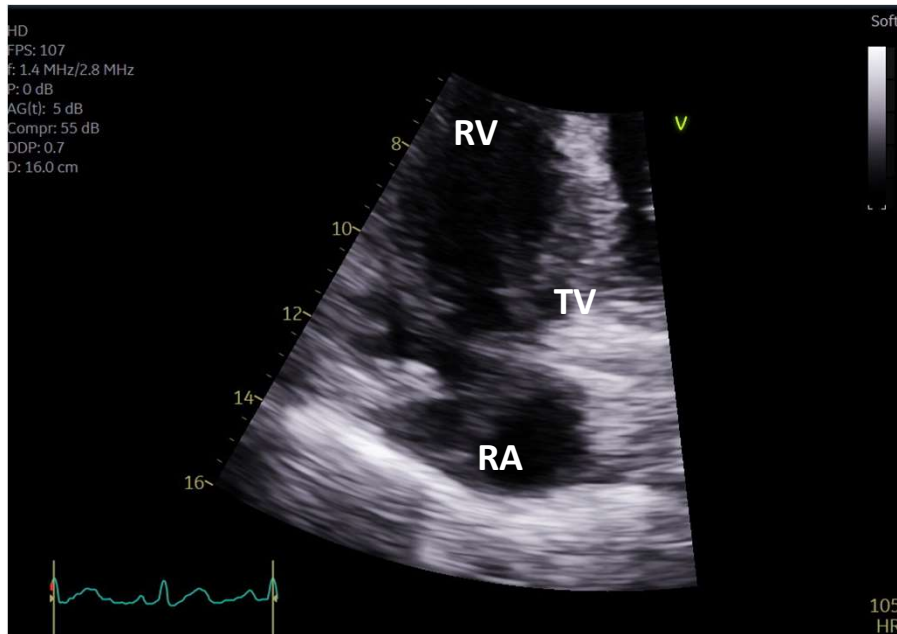
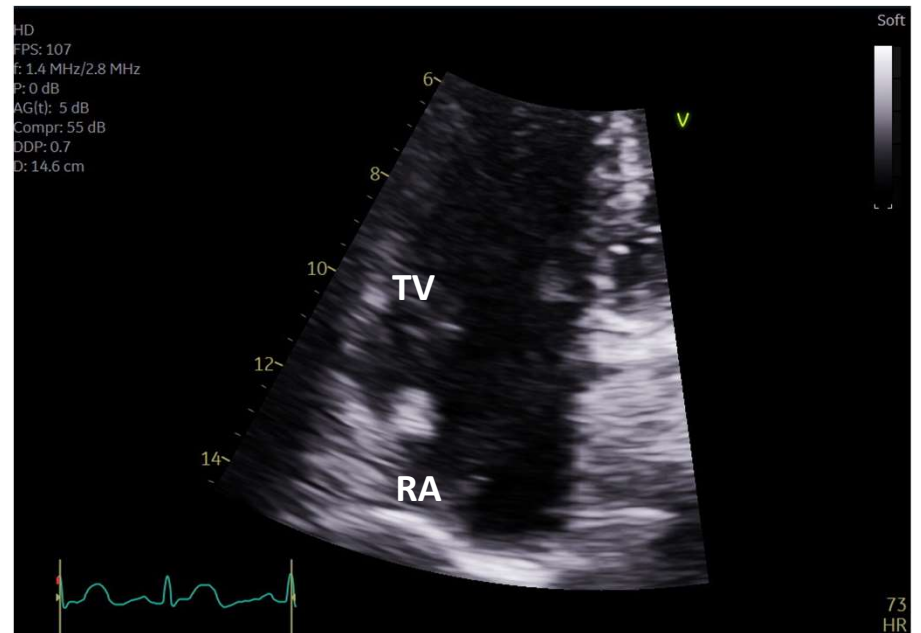
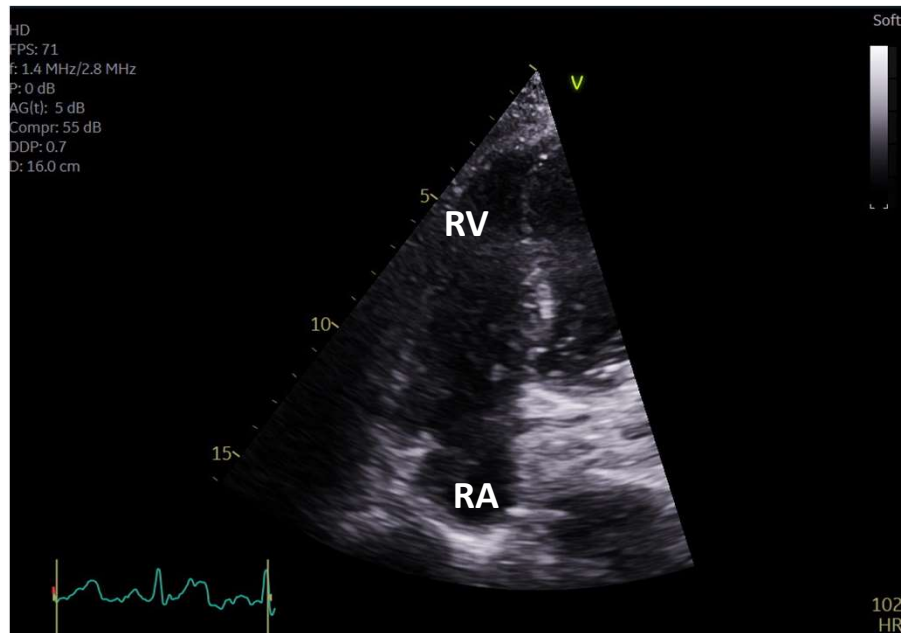


Image 24: apical 4 chamber. Zoom on TV showing leaflet vegetations.

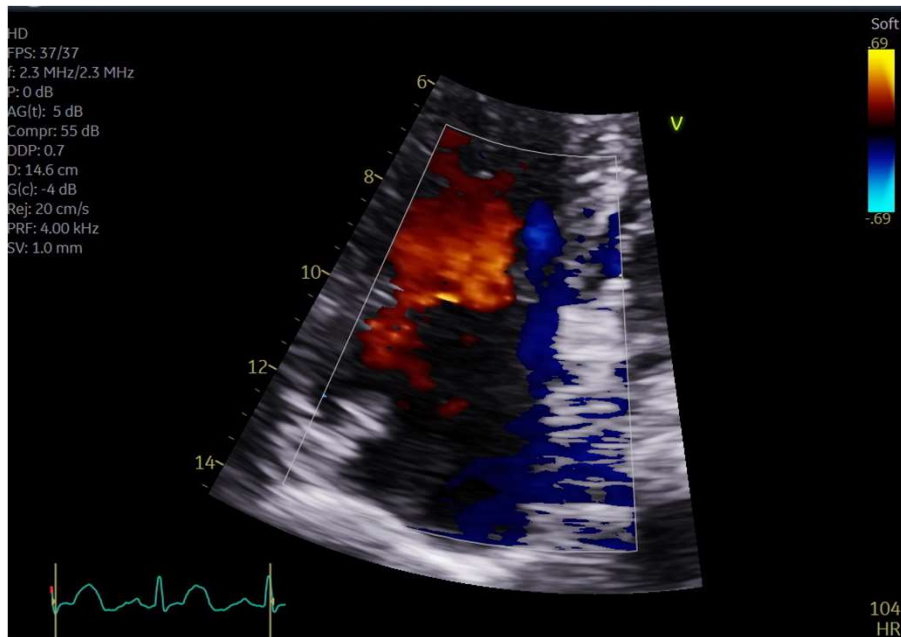
- Pleural effusion, lobar collapse and a heterogeneous cystic pulmonary lesion are noted.
- Compared to the previous TTE on 10/1/25, appearance of the tricuspid vegetation is stable.

TTE 5 Weeks in ICU ...



Images 25 and 26: apical 4 chamber and zoomed TV showing persistent leaflet vegetations.

TTE 5 Weeks in ICU ...



Images 27: colour box across TV.

TTE 5 Weeks in ICU ...

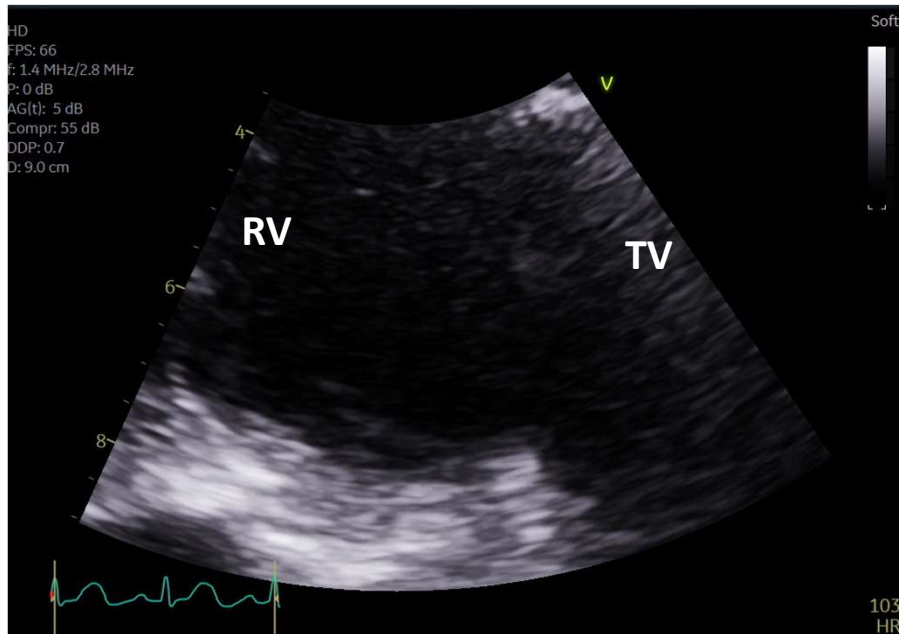
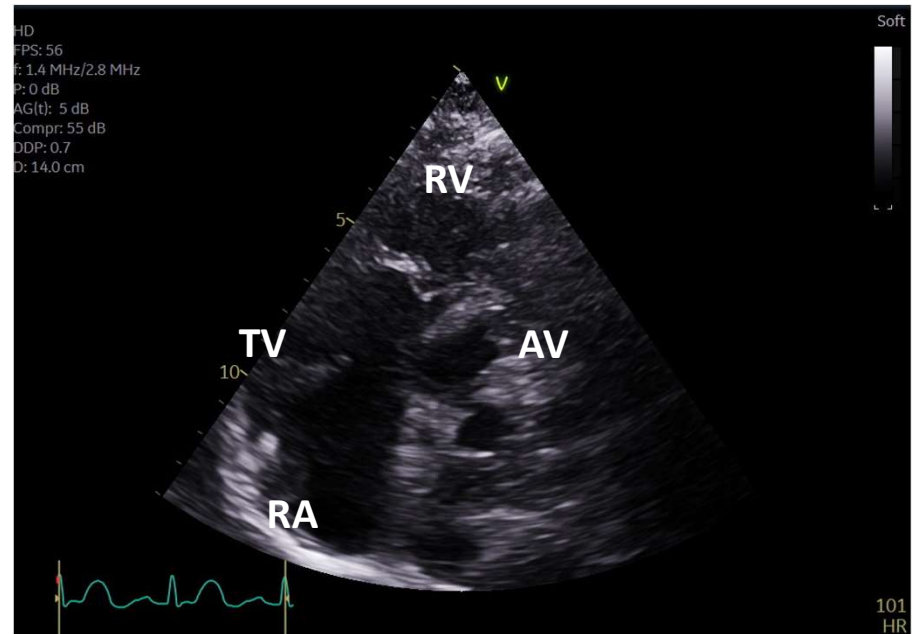


Image 28: PLAX RV inflow. Zoom TV.



Images 29: PSAX RV inflow and outflow.

Case: LT

- Presentation
- History: Staphylococcus aureus infection with dental implants
- Echo
- Treatment: Cefazolin, Rifampicin, Fusidic Acid

Infective endocarditis

- Infective endocarditis is a serious life threatening inflammation of the inner lining of the heart chambers and valves.
- Caused by bacterial agents.
- Staphylococcus aureus most common agent (27%).



Images courtesy of google images

Infective endocarditis

- Acute injection infections from intravenous drug use.
- Hospital/healthcare associated bloodstream infections.
- Implantable device related infections.
- Prosthetic valve related.
- Intravenous lines.

Dental implants

- Dental implants Australia AUD\$3000 – 7000 per tooth as of Sept 2024
- Medical tourism in Vietnam. Fraction of the cost 400 per tooth.
- <https://www.youtube.com/watch?v=-WFobqKlcfY>
- <https://www.youtube.com/watch?v=KBXr8V7raLM>

Take home messages



TOE is exciting, sonographers should participate more in TOE studies.



TTE in ICU is still extremely useful diagnostic modality.



Careful: Medical tourism and hospital acquired infections.

References

- Infective endocarditis: A contemporary update. Ronak Rajani; John L Klein. Clinical Medicine; Volume 20, Issue 1, January 2020, Pages 31-35



Case: LT

- **Pathology results:**
- Hb 101 **low**
- Platelets 21 (11 on admission, 4 x units platelets given)
- WCC 28 **elevated**
- CRP 321 (398)
- Cr 142 (370 on admission)
- Albumin 18
- OE 40L, 60% FIO2
- MAp 77
- AF rate 95-100 bpm. AF, QTC > 550ms on ECG.







