Cases to Learn From

Theme: The Atrial Septum

1

Case A

70 year old woman

Immigrant from Central America

Referred for evaluated of a murmur

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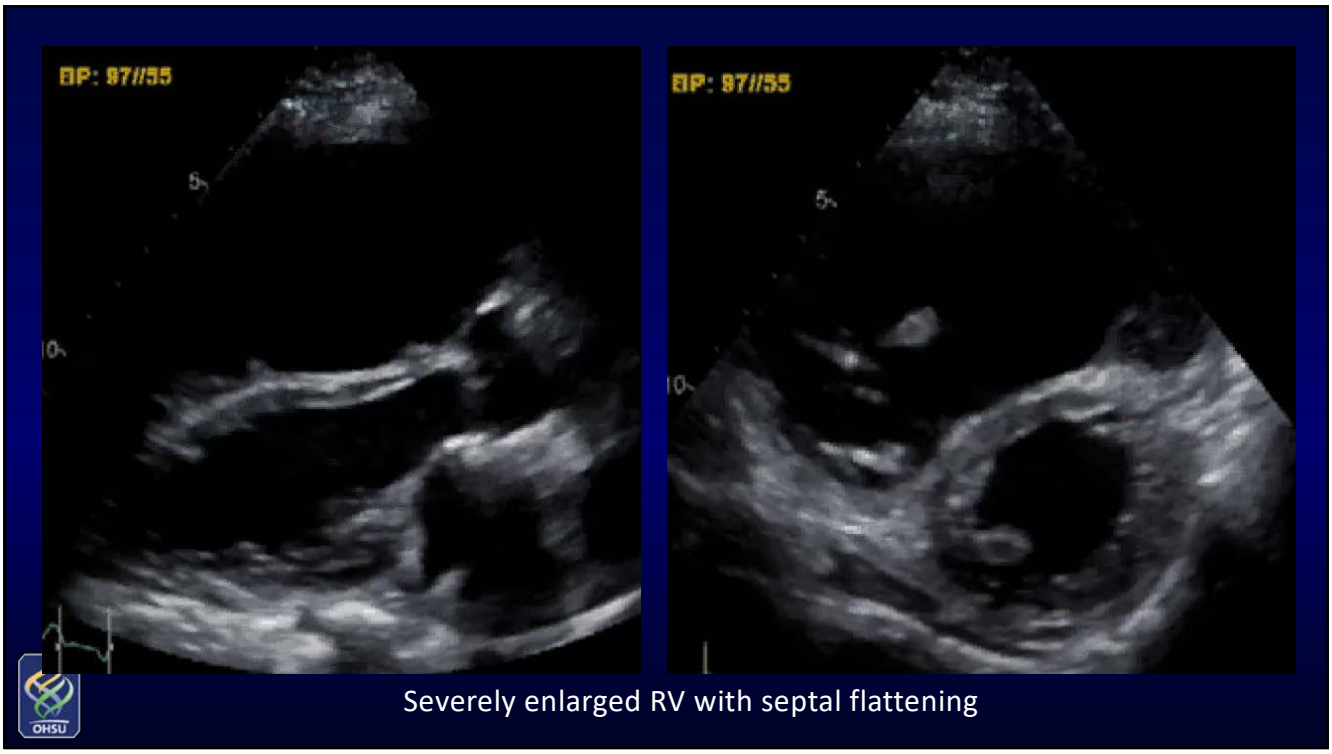

Severely enlarged RV with septal flattening

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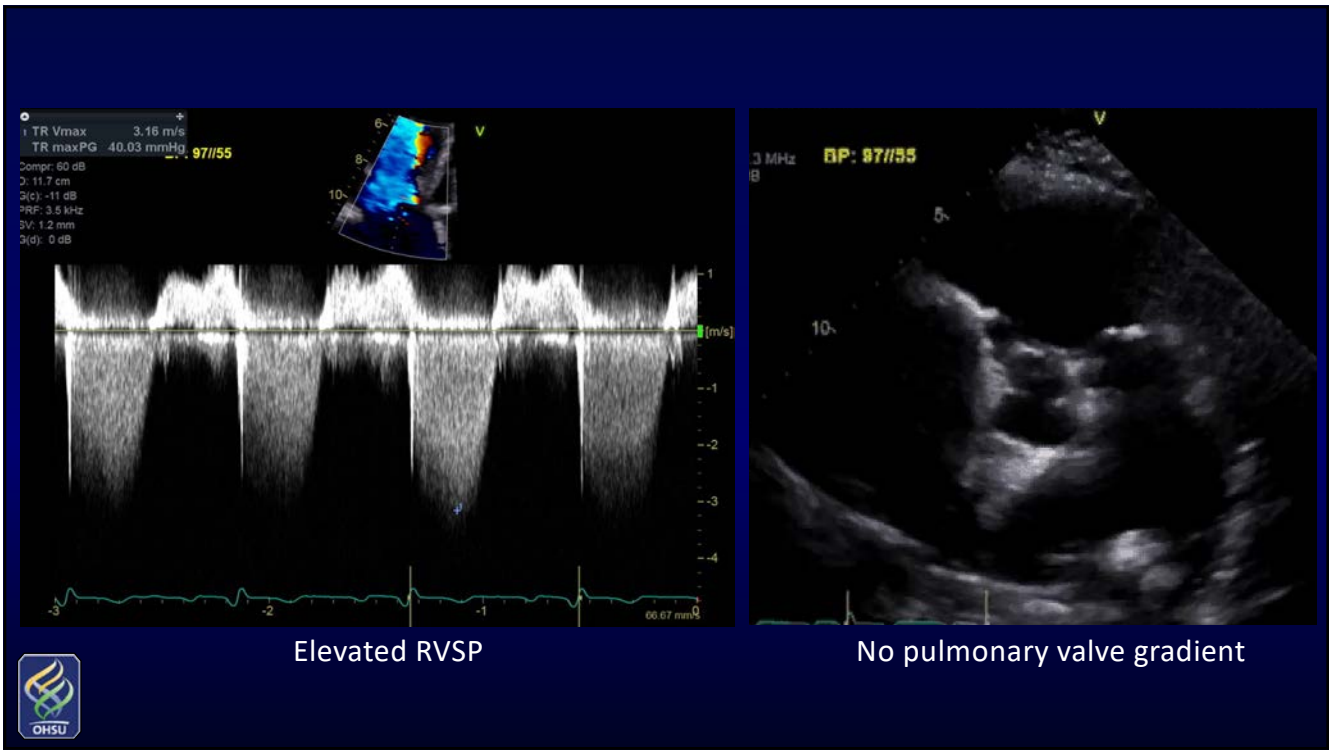

Elevated RVSP

No pulmonary valve gradient

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History

6 years ago

- Right heart cath showed PAH
- Responsive to vasodilator therapy.
- Started macitentan and tadalafil.

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Increased fatigue and dyspnea over the last several months

- O_2 saturation drops when walking the hallway
- NT-BNP 1,500

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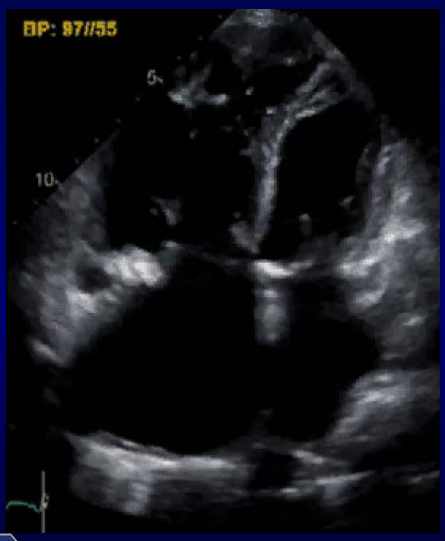
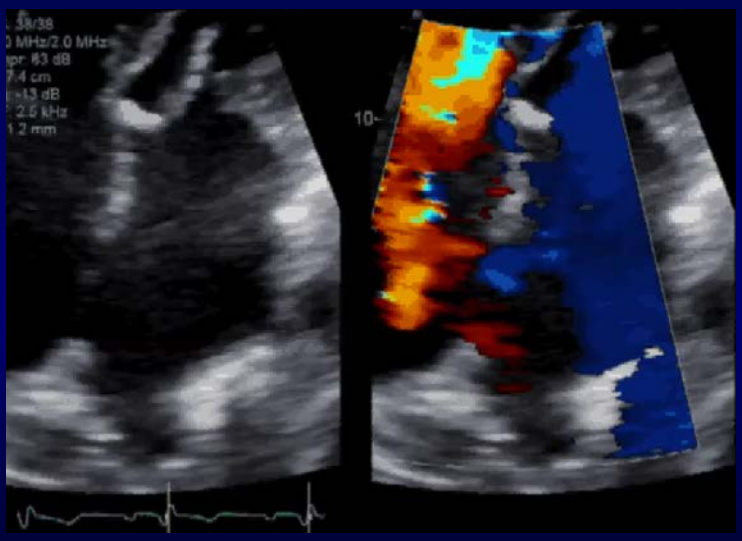


Atrial level shunt?



ASD flow masked by TR jet?

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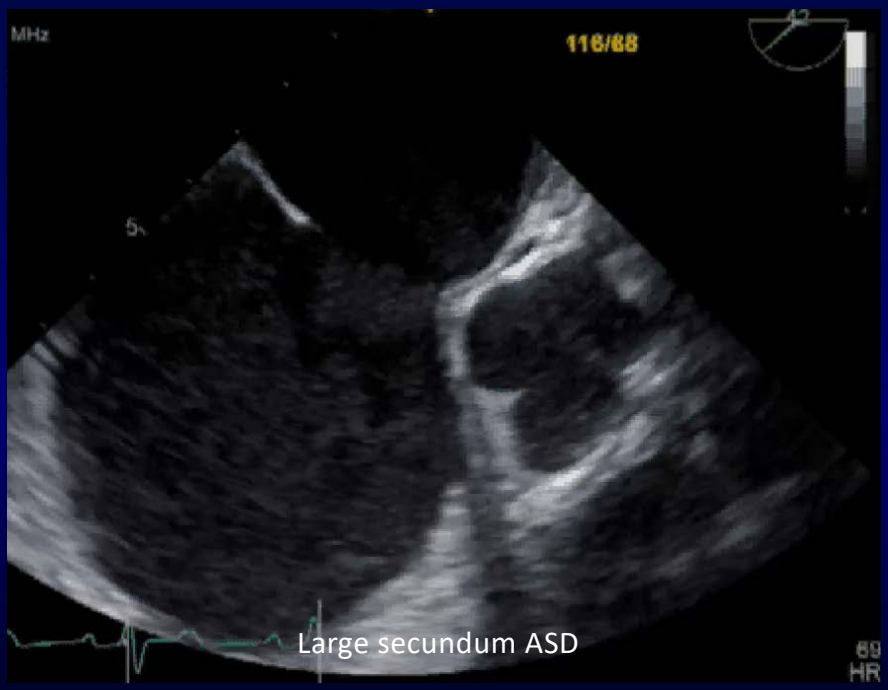
TEE



Large secundum ASD

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Right Heart Cath

RA 12, RV 60/19 mean 33

LV 90/15

RA sat 82%, PA sat 84%,

Qp:Qs 2.4:1, PVR 4.3 wu

With 100% FiO_2 QpQs increased to 4:1

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Questions?

Should her defect be closed?

Yes, the PVR is not prohibitive and she still has vasoreactivity

How should it be closed?

Surgically

How should she be managed through the procedure?

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Anesthesia Trial Run

Referred for surgery; preop planning showed poor dentition
- Tooth extraction required

General anesthesia for tooth extraction
- Given O_2 for induction, and sedated
- Ventricular arrhythmia, shocked several times
- Pulmonary edema
- Intubated for 3 days

RV failure or something else? Too sick to undergo surgery?

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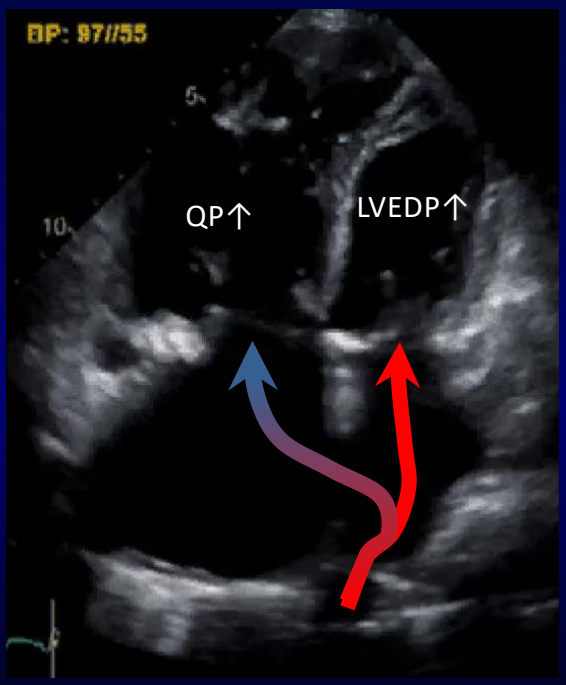
ASD Physiology

Under-filled LV over time
Leads to worsening diastolic function
Drives more left to right shunt
Increases Qp:Qs
Problem exacerbated by:
- Pulmonary vasodilators
- Supplemental oxygen



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Surgery

Macitentan and tadalafil were stopped

Recognized the risk of high rising LV/LA pressures after defect was closed

Slow induction, on room air to avoid excess pulmonary vasodilation

ASD closed with a fenestrated patch to still allow L→R shunt

Post op recovery was slow, prolonged intubation, needed pacer, but did fine

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Case B

56 yo man with mild COPD, 5 days of cough, dyspnea

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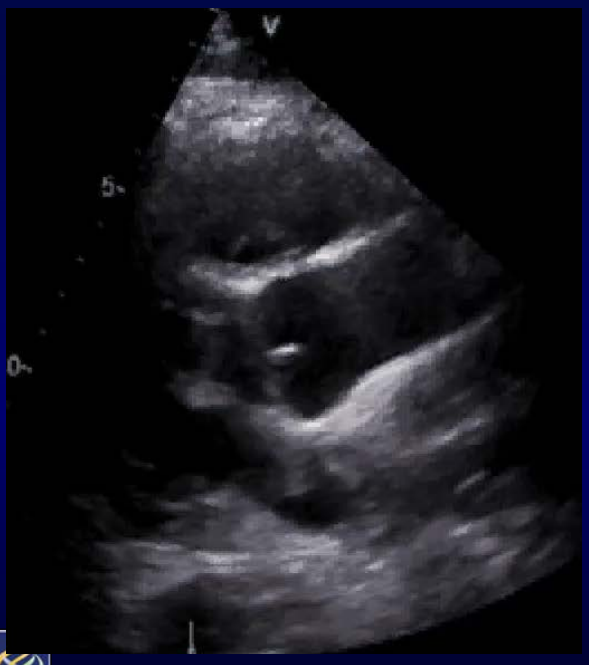
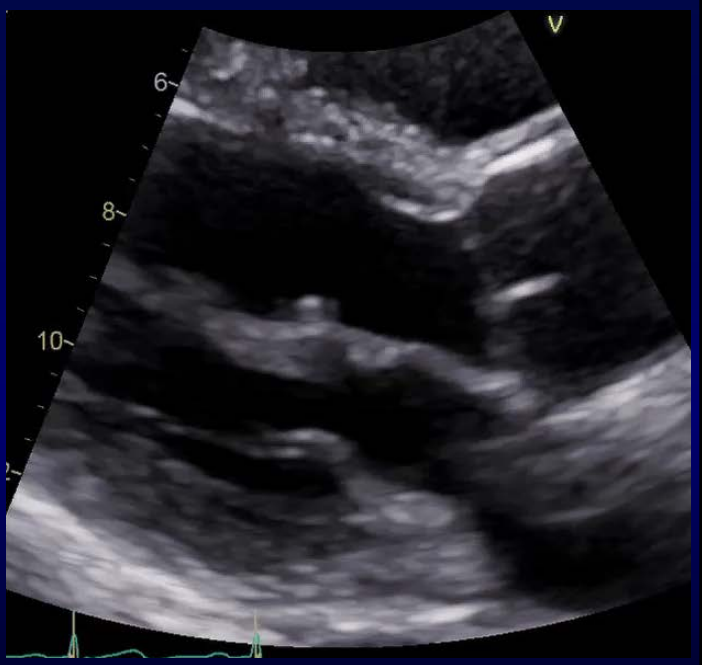


Left atrial mass



Crossing the mitral valve

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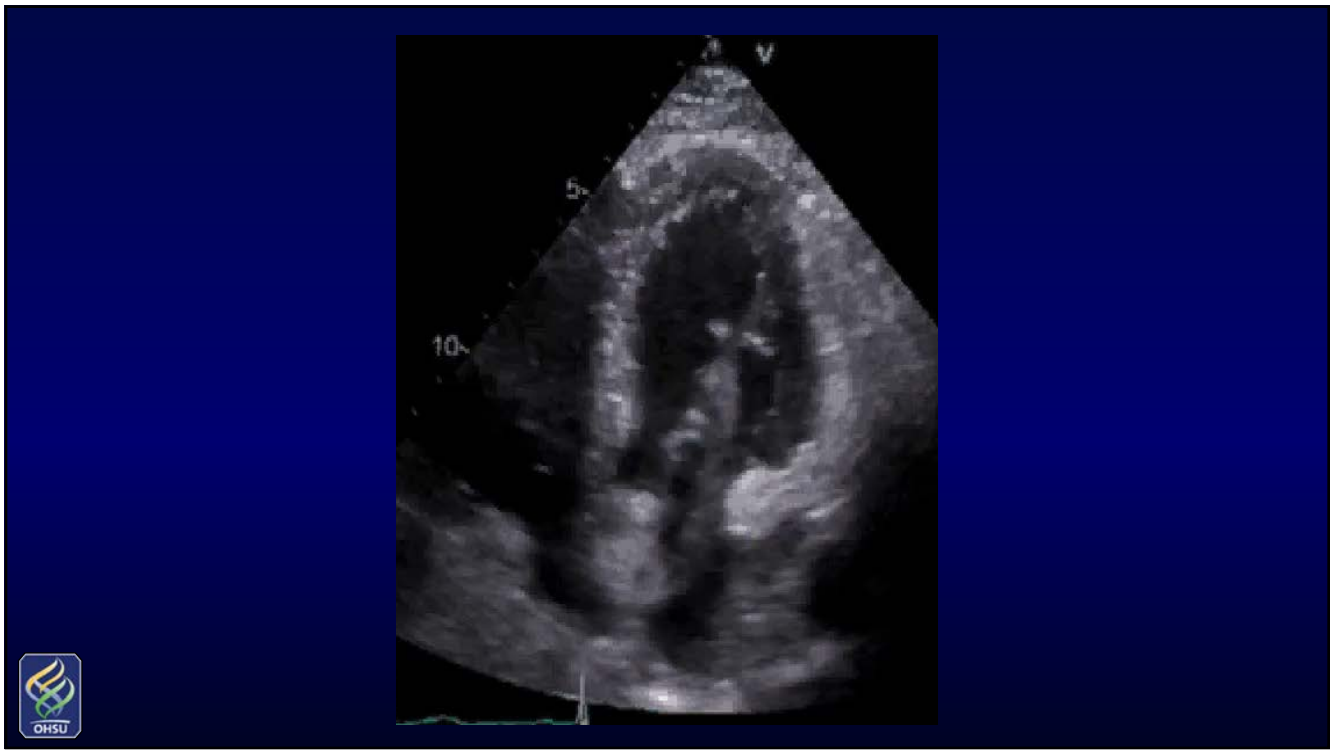

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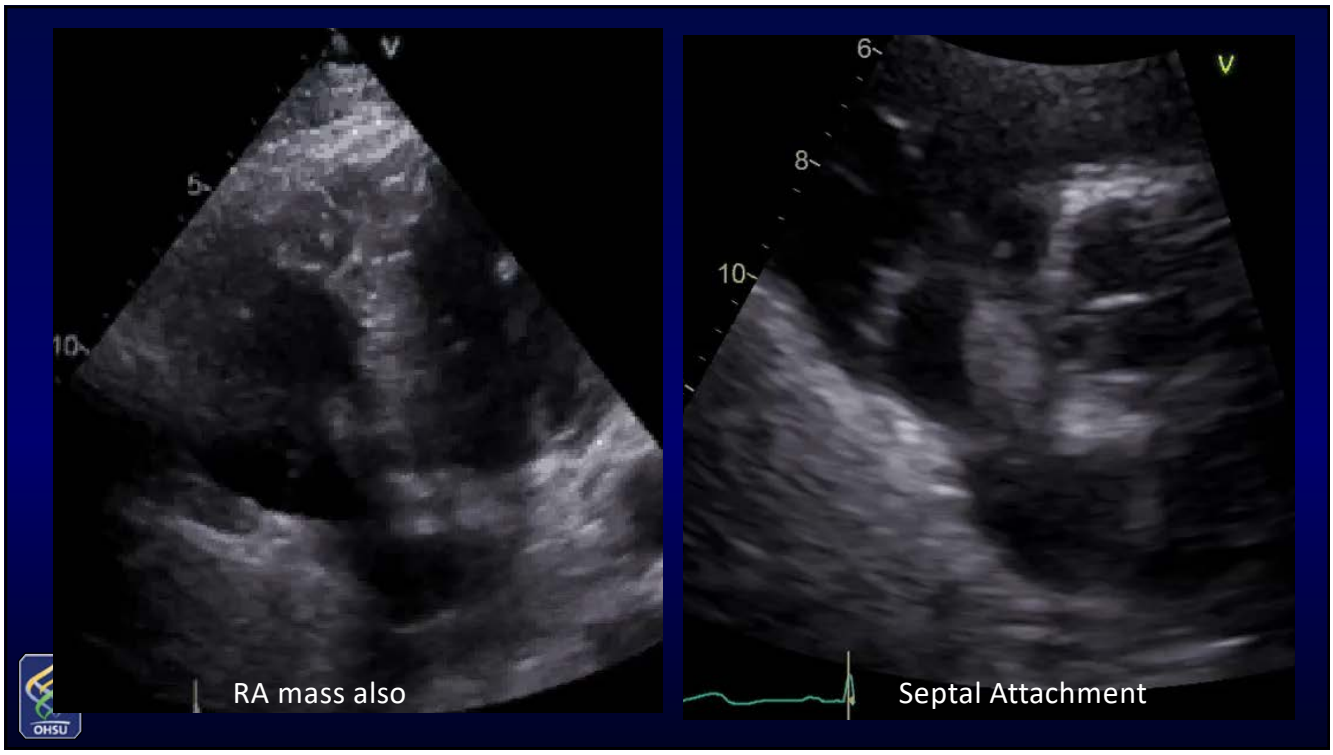

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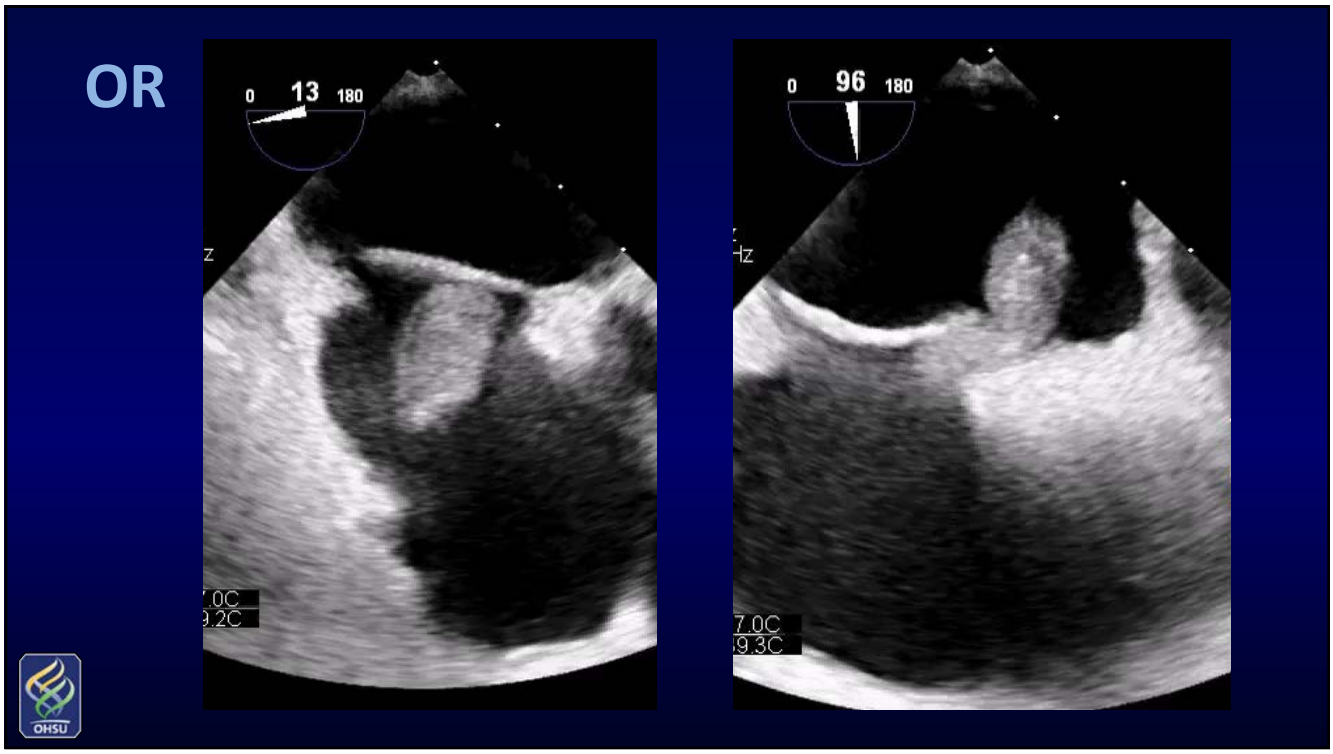

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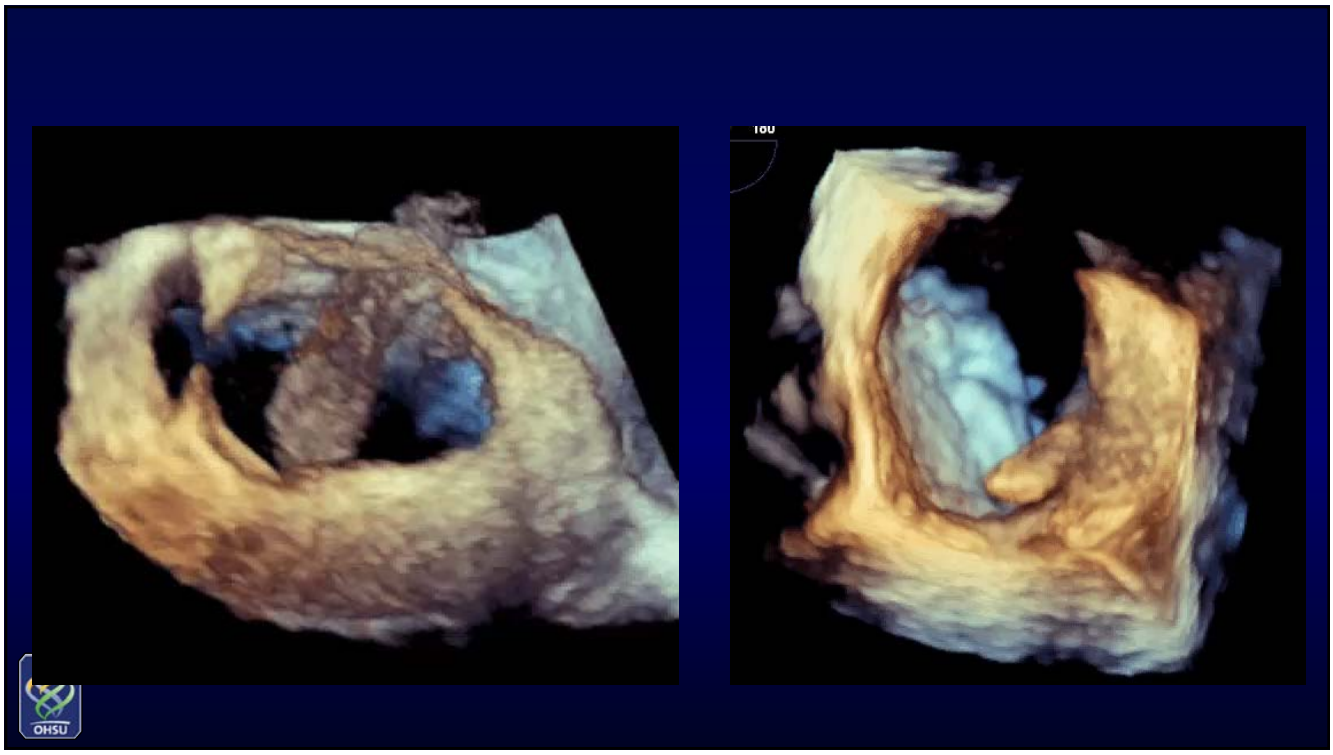

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History

Initial presentation with saddle pulmonary embolism
Thrombus transition through PFO probably during heavy cough
No systemic embolic events

Successful urgent surgical thrombectomy and PFO closure

Pathology showed organizing thrombus, no malignancy

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