A Puzzling Case of Post Partum Chest Pain

Amer M. Johri
MD MSC FRCPC FASE
Michael Cenkowski MD FRCPC

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Case: Ms. K

- 16 year old female develops chest pain within 1 hour after delivery of her baby
  - G1P1, delivered at 38 weeks
  - Uncomplicated pregnancy, SVD
  - Otherwise previously healthy
  - No meds
  - No relevant family nor social risk factors

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Post Partum Course…

- Vaginal bleeding (Hgb: 45)
- Typical cardiac CP and SOB

- Supportive care (3 units pRBCs and IVF)
- Post-Tx Hgb: 87

- Progressive CP and SOB

- Cardiology service consulted…

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Physical examination

- General: Very anxious, mild distress
- VS:
  - 95/60 mmHg (= both arms), p 140 bpm, 95% RA, RR 20
- Exam:
  - JVP 3 cm, + AJR
  - 2/6 systolic murmur loudest at LUSB, HSM at LLSB with radiation to axilla
  - Minimal bibasilar crackles
  - Pitting lower leg edema to mid-shin

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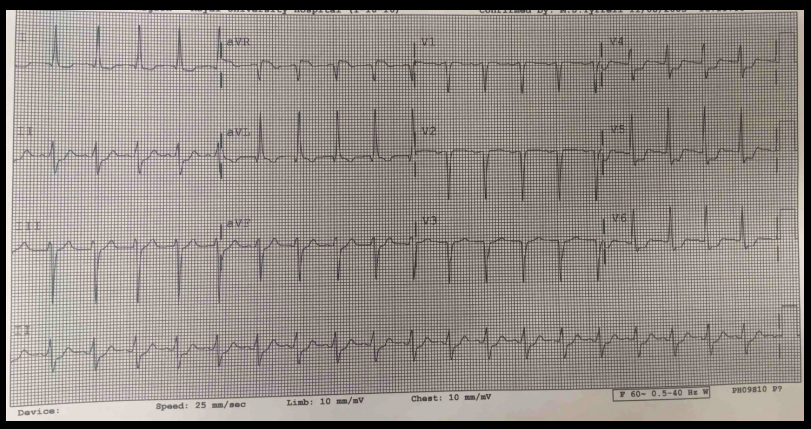
EKG



CK: 841, Troponin (I): 17.06

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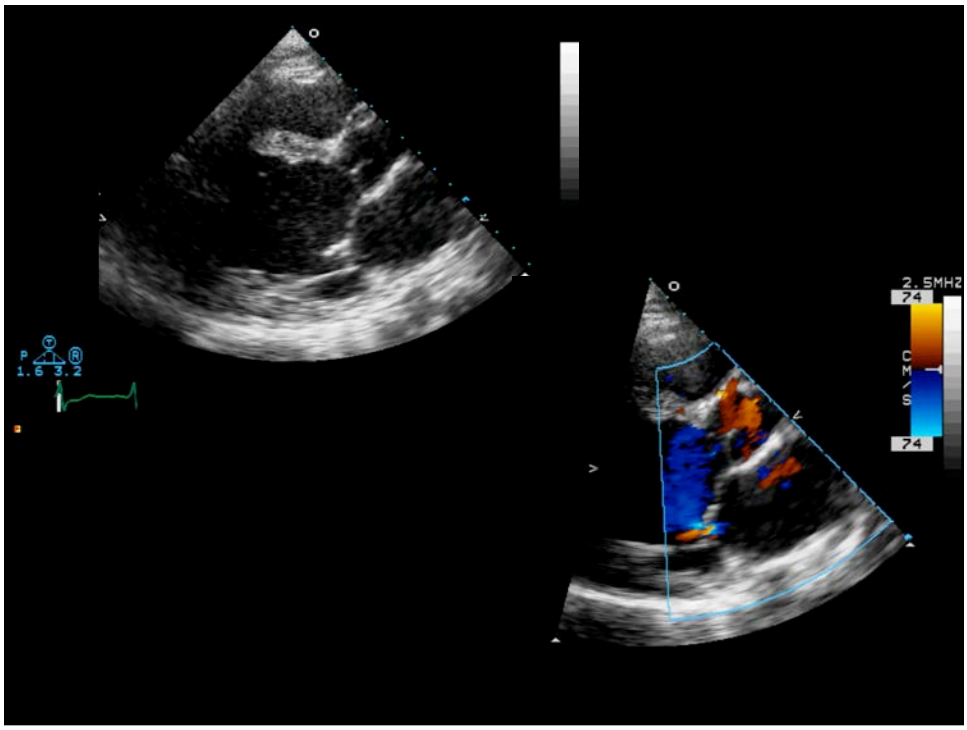

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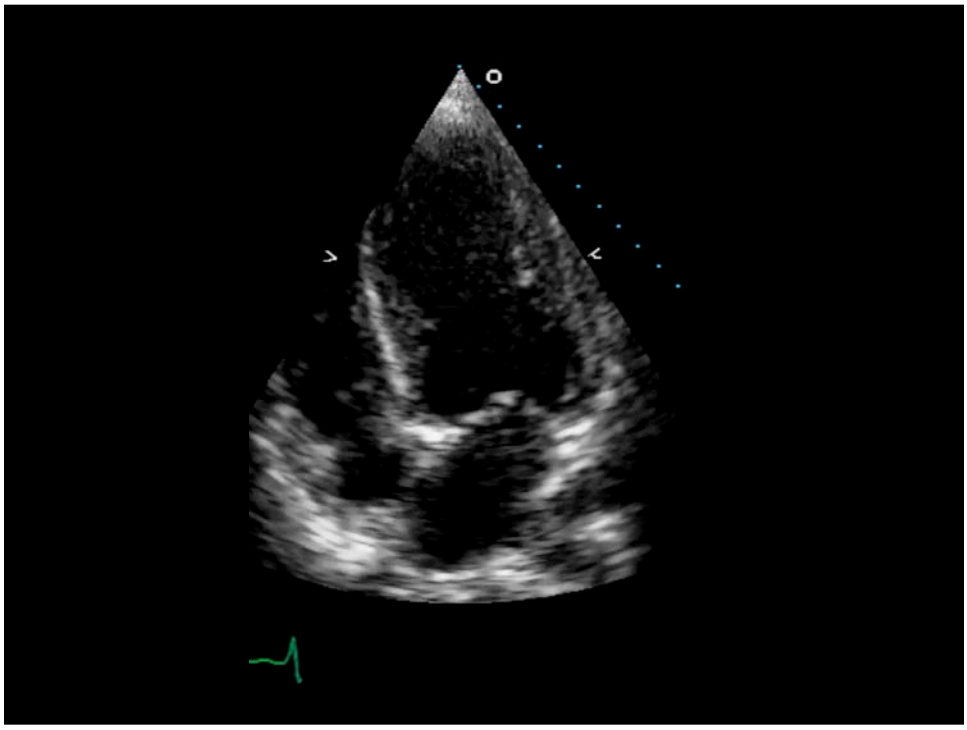

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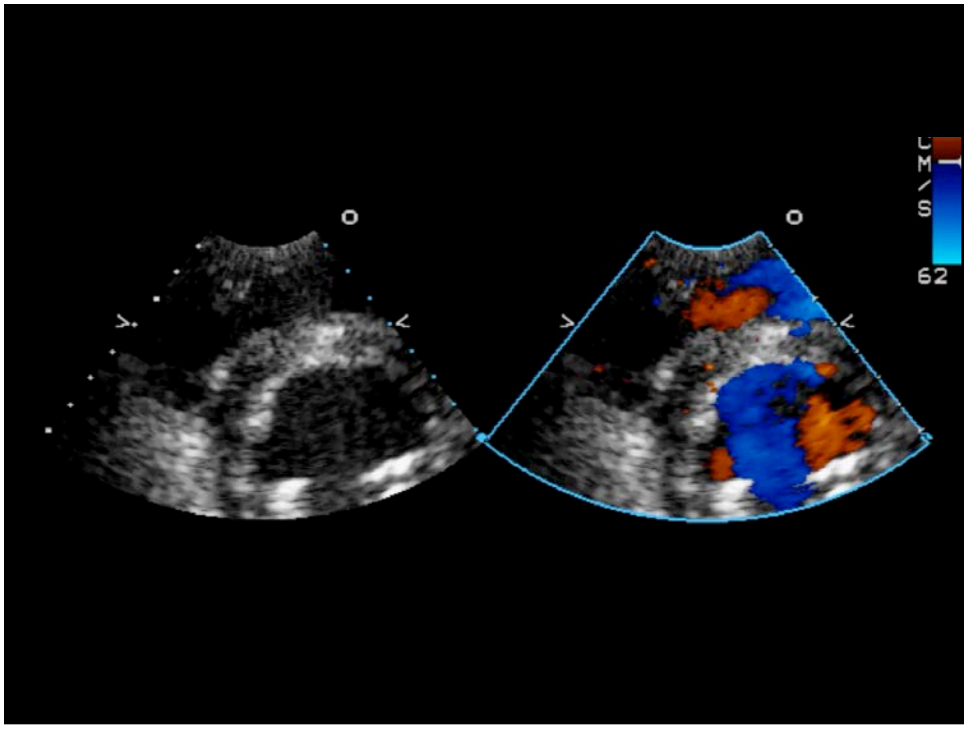

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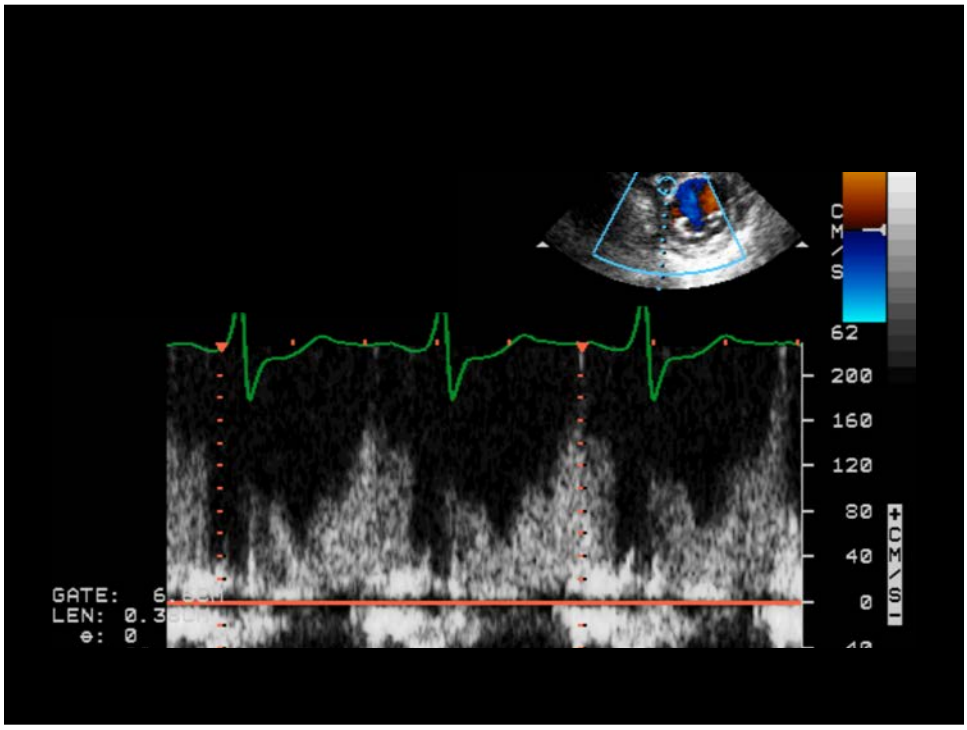
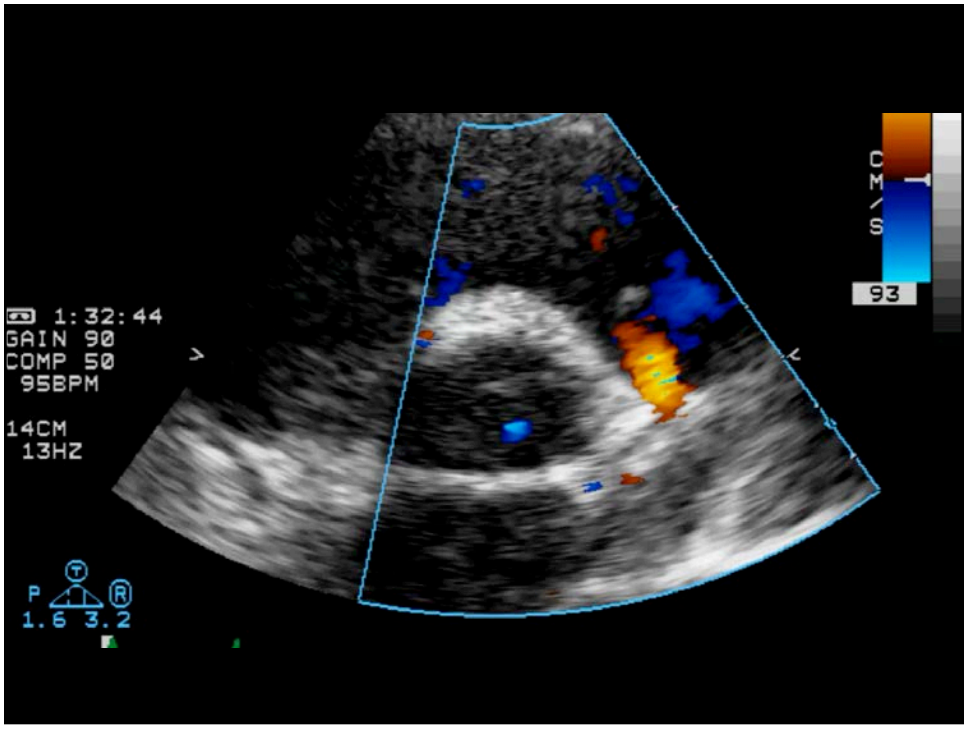
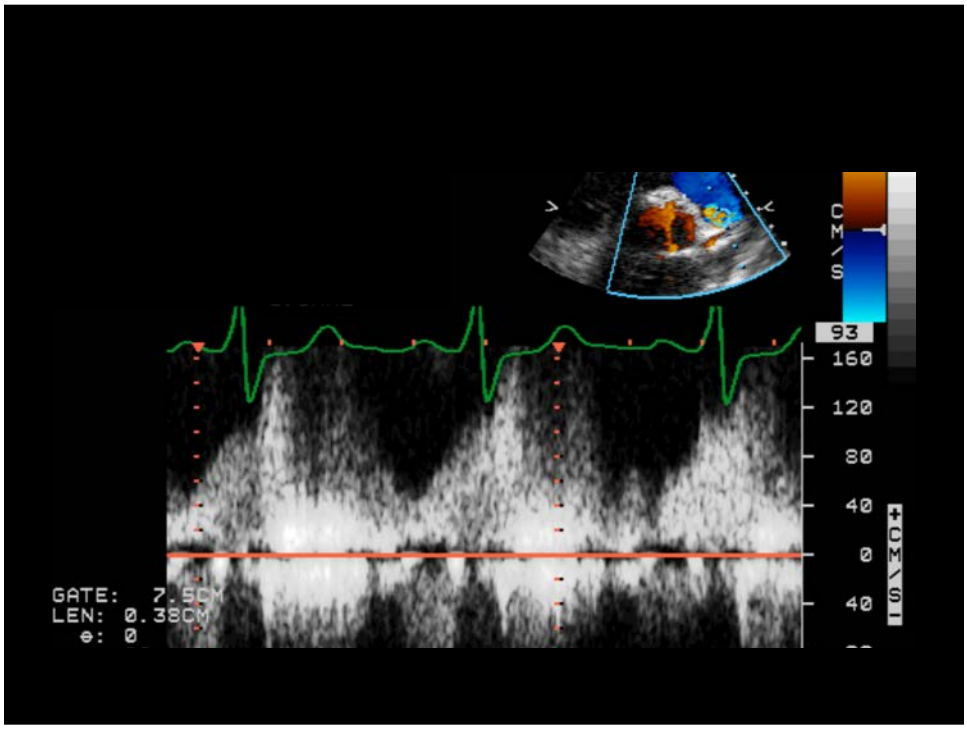

CM/S
62
200
160
120
80
40
0
CM/S
GATE:
LEN: 0.3
e: 0

9


CM/S
93
1:32:44
GAIN 90
COMP 50
95BPM
14CM
13HZ
P
1.6 3.2

10



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Case Summary thus far…

- 16 year old post partum female
- Anemic (PPH)
- Anginal type chest pain
- Ischemic ECG changes
- Positive cardiac enzymes
- WMA on echo
- Unusual colour flow Doppler signals

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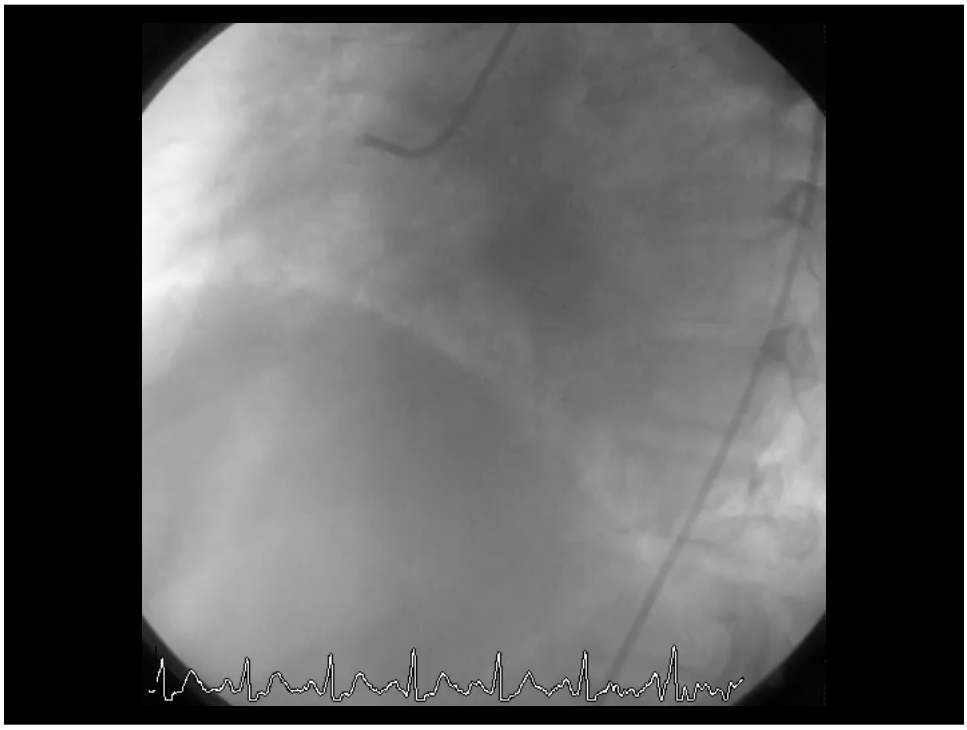

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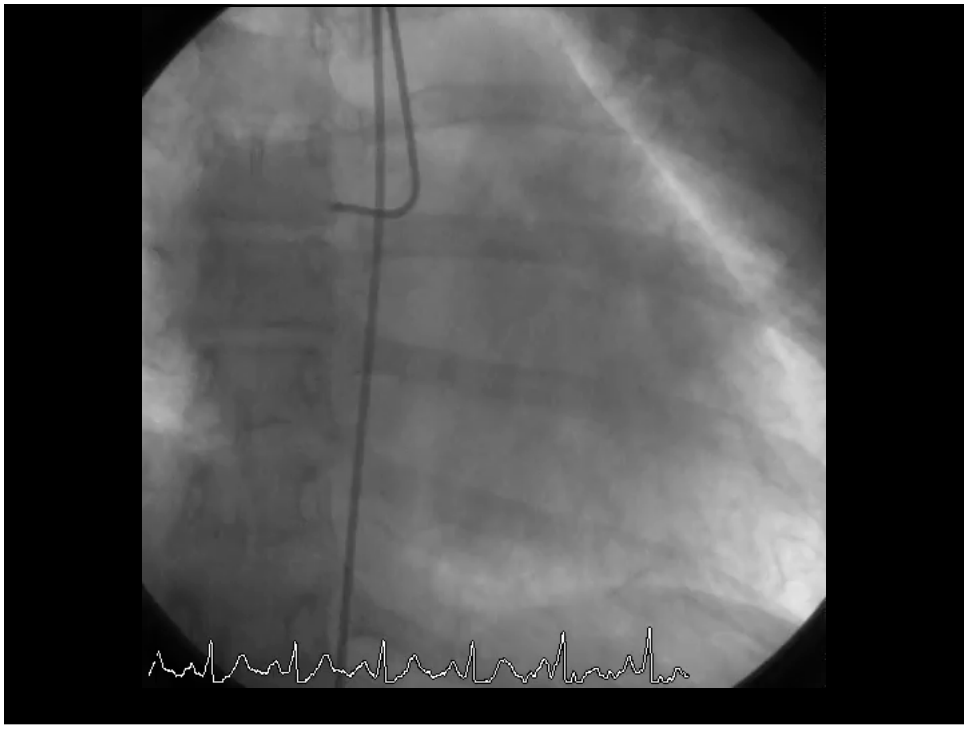

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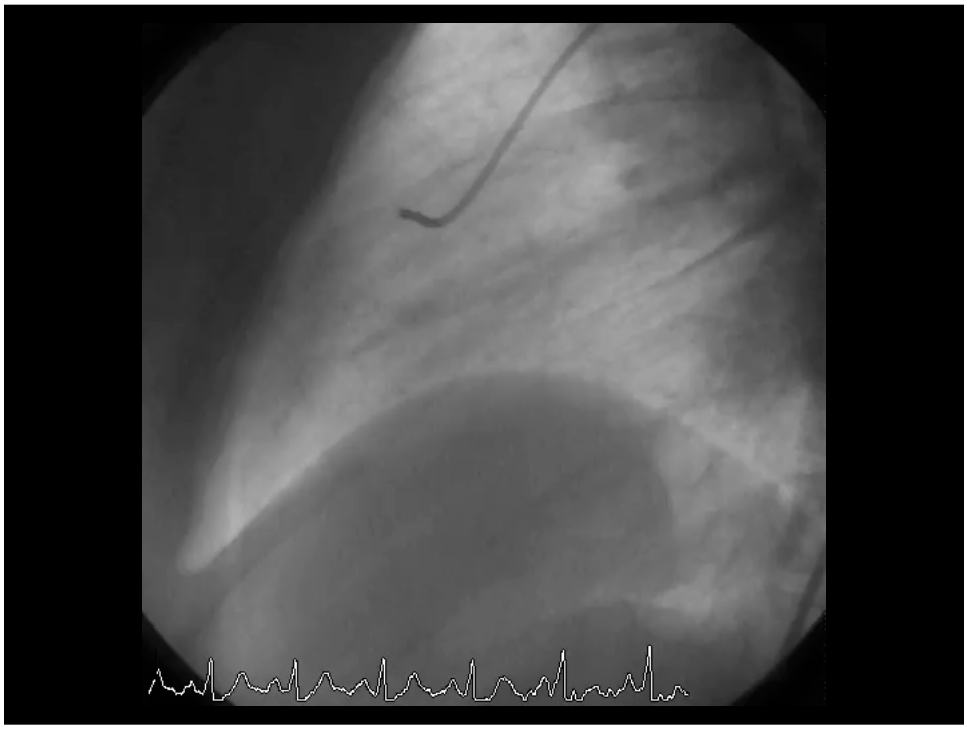

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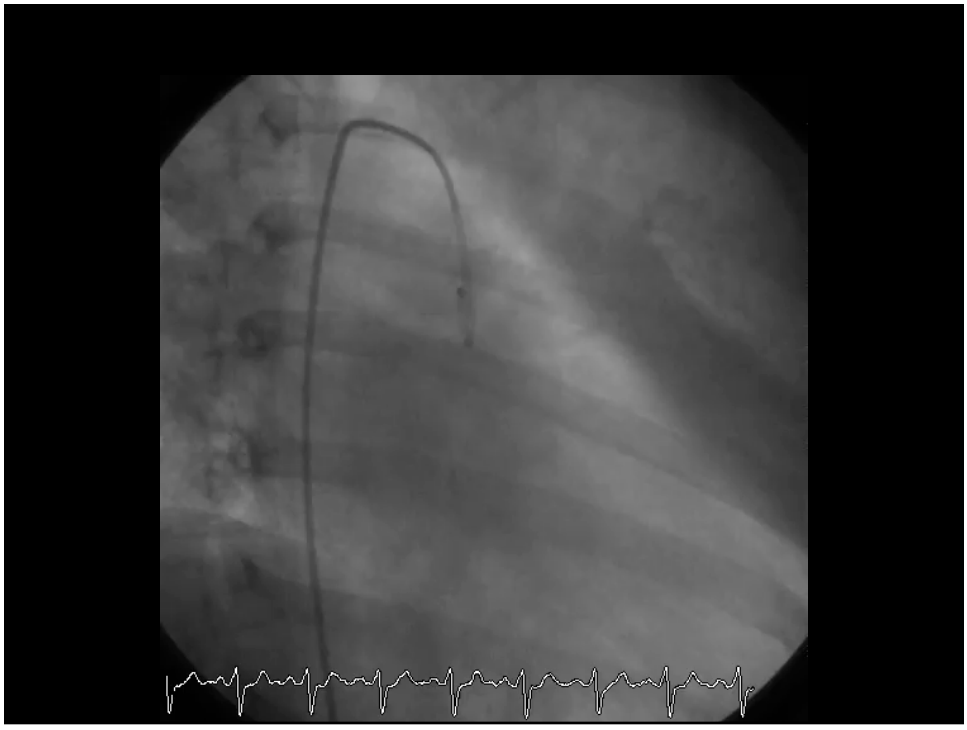

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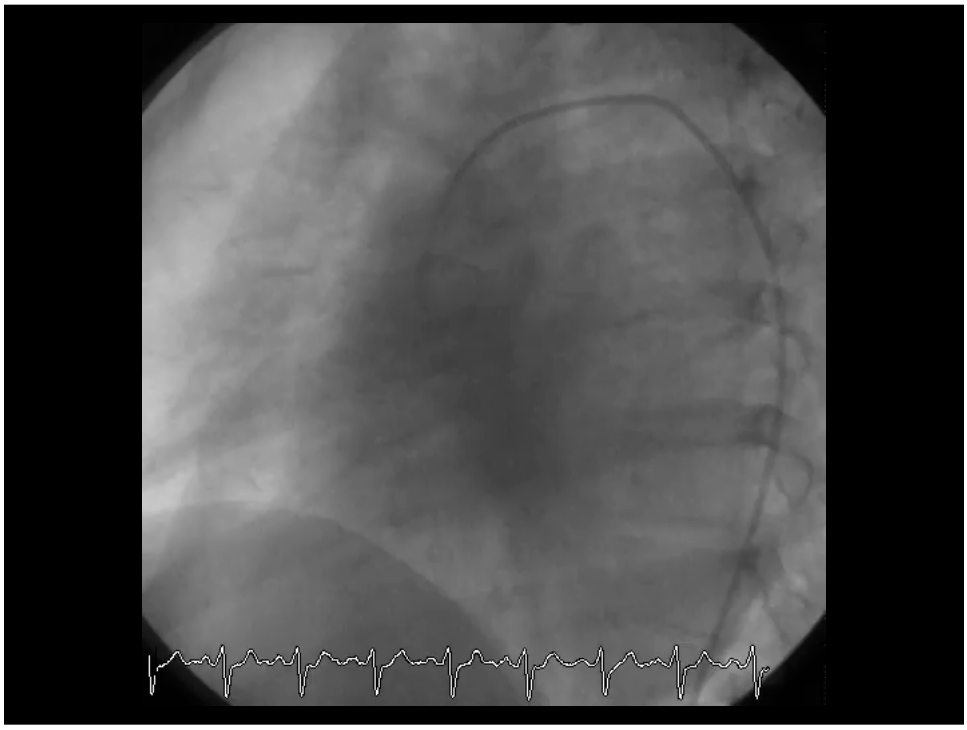

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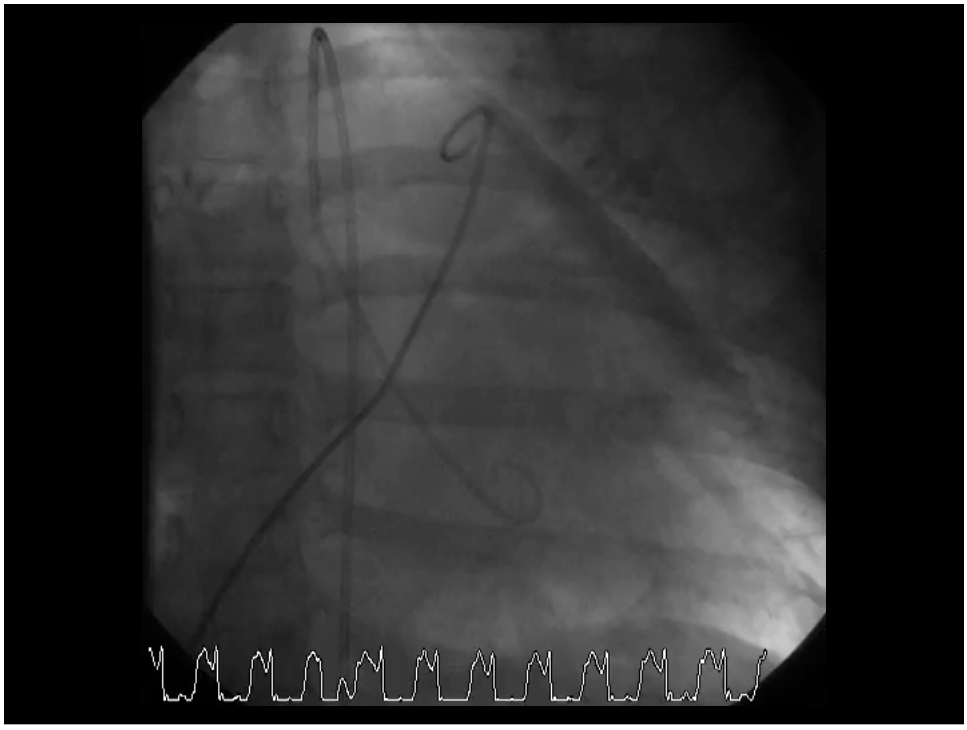

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Anomalous Left Coronary Artery from Pulmonary Artery (ALCAPA)

- Most common congenital coronary artery abnormality in infants
- 0.25-0.5% of all congenital heart disease
- Usually an isolated cardiac anomaly
- Spontaneous inheritance
- 1:1 F:M
- 90% mortality in first year of life if untreated
- Complications
  - MI, CHF, MR, arrhythmia, SCD

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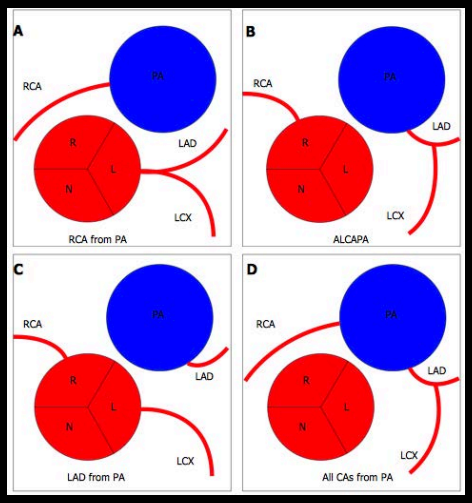
Anomalies of origin from the PA



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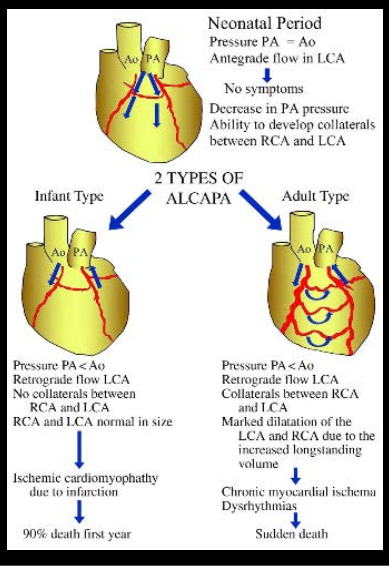
Pathophysiology



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Treatment

Stout KK, et al.
2018 ACHD Guideline

2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

4.4.7.3. Anomalous Coronary Artery Arising From the PA

Recommendations for Anomalous Coronary Artery Arising From the PA Referenced studies that support recommendations are summarized in Online Data Supplement 51.		
COR	**LOE**	**Recommendations**
Therapeutic		
I	**B-NR**	**1. Surgery is recommended for anomalous left coronary artery from the PA (S4.4.7.3-1–S4.4.7.3-7).**

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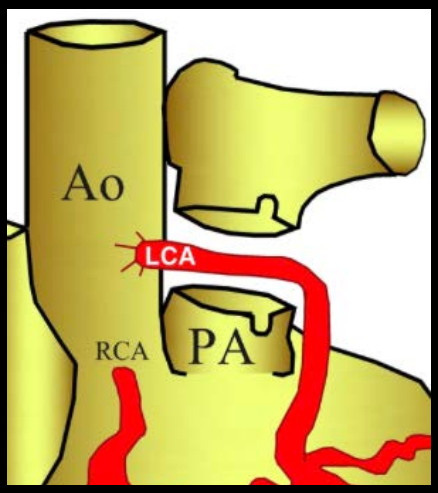
Coronary button transfer

- LCA is re-implanted into Ao with a button from the PA wall
- Considered the most anatomic correct
- Preferred method in infants



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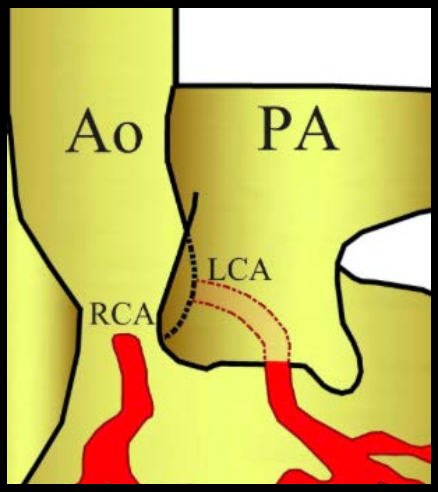
Takeuchi procedure

- Transpulmonary baffle between the coronary ostium in the Pa and Ao
- Supravalvular PS is common complication



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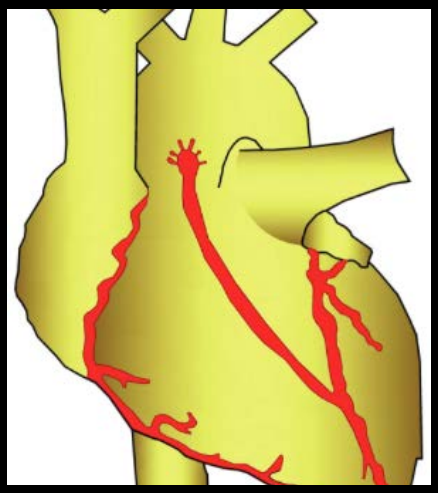
CABG with ligation of LCA

- Ligation of LCA at its origin from PA combined with CABG
- Preferred method in adults



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Back to the Case…

- Admitted to CCU
  - Heart failure therapy → Carvedilol 25mg PO BID, Lisinopril 5mg PO OD, Lasix 20mg PO OD
- Referral to Cardiovascular Surgery
  - Coronary button transfer
  - PA patch

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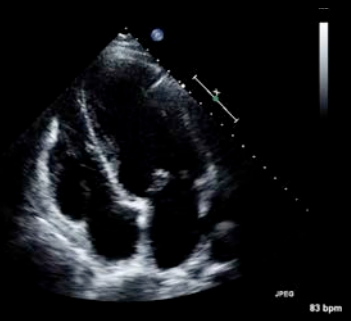
Case Conclusion

- Recently seen in clinic
- Clinically well from a cardiac perspective



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Summary

- ALCAPA is a rare coronary artery anomaly
- Morbidity/mortality is dependent on the extent of collateralization
- Surgery is definitive therapy
- Consider this syndrome on the differential of dilated coronary arteries (specifically the RCA)

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