CONGENITAL SUB-MITRAL LEFT VENTRICULAR ANEURYSM ASSOCIATED WITH MITRAL VALVE BLOOD CYSTS

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PRESENTATION

- 25-year-old Black male
- Presented to ED with 2 weeks chest pain, exertional dyspnea, and orthopnea
- No significant known medical history
- Hypoxic on arrival requiring intubation in ED

INVESTIGATIONS

- **Physical exam**: Tachycardic, hyperdynamic precordium, 5/6 holosystolic murmur at apex radiating to axilla, afebrile.
- **Labs**: Negative blood cultures, no leukocytosis
- **Transthoracic echo** (Figure 1A) and subsequent **transesophageal echo** (Figure 1B-D) demonstrated perforated cysts on the posterior mitral valve connecting to a sub-mitral left ventricular (LV) aneurysm resulting in severe mitral regurgitation.
- **Cardiac CTA** (Figure 2A-C) confirmed a large aneurysm in the basal inferolateral LV wall communicating through the superiorly displaced posterior mitral valve leaflet with normal coronary arteries.
- **Cardiac MRI** (Figure 2D) showed delayed enhancement of the aneurysm.

MANAGEMENT

- Surgical mitral valve replacement with a 29 mm St. Jude mechanical valve and LV aneurysm repair with a pericardial patch.
- Surgical pathology confirmed blood cyst and no evidence of infection
- Discharged post-op day 8

CONCLUSIONS

- Sub-mitral LV aneurysm is a rare congenital heart defect most described in indigenous African populations
- Intracardiac blood cysts are also infrequent congenital findings
- Multimodality imaging was critical for establishing the diagnosis and pre-operative plan for this patient with a rare, complex association of anomalies