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# A Rare Cause of Chest Pain and Pericardial Effusion

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## Case Description

A teenager with a history of pectus excavatum presented with acute-on-chronic chest pain. Two years prior she had a normal cardiac echocardiogram and normal pulmonary function tests. Although described as sharp and intermittent, the pain worsened in severity from 3 to 8/10 over the past two weeks. The pain is worse with activity and movement. Clinical workup included an electrocardiogram that was reassuring and an echocardiogram that showed mild to moderate pericardial effusion. A cardiac CT was done that showed a 12 mm ventricular pseudoaneurysm arising from the lateral anterior wall of the right ventricle. Figure 1 and 2. A cardiac MRI confirmed the diagnosis. Given that the idiopathic pseudoaneurysm as the etiology for the effusion, she elected to go to the catheterization laboratory for closure. The pseudoaneuysm was entered with 6fr 3drc catheter via right femoral vein and a 6-4 Amplatzer ductal occluder type 2, (ADO2) device was placed. A right ventricular injection confirmed successful occlusion. Figure 4. In follow up her pericardial effusion has minimized and she has been maintained on a low-dose aspirin aspirin. Although left ventricle aneurysms and pseudoaneurysm can be seen in adults, idiopathic right ventricular pseudoaneurysm, especially in children is very rare [1].

**Suggested Teaching Points:**

1. Maintain a high index of suspicion for alternative diagnoses when symptom severity changes.
2. Pseudoaneurysm is a rare cause of pericardial effusion.
3. Transcatheter closure may represent a therapeutic option.



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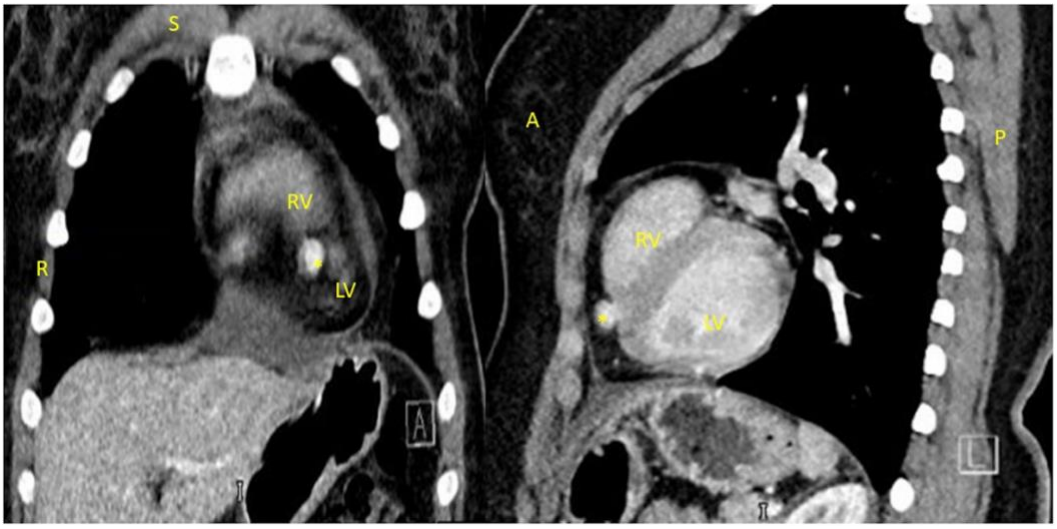


**Figure 1:** Coronal CT slice and sagittal CT slice. A-anterior, LV-left ventricle, P-posterior, R-right of patient, RV-right ventricle, S-superior, *-pseudoaneurysm.

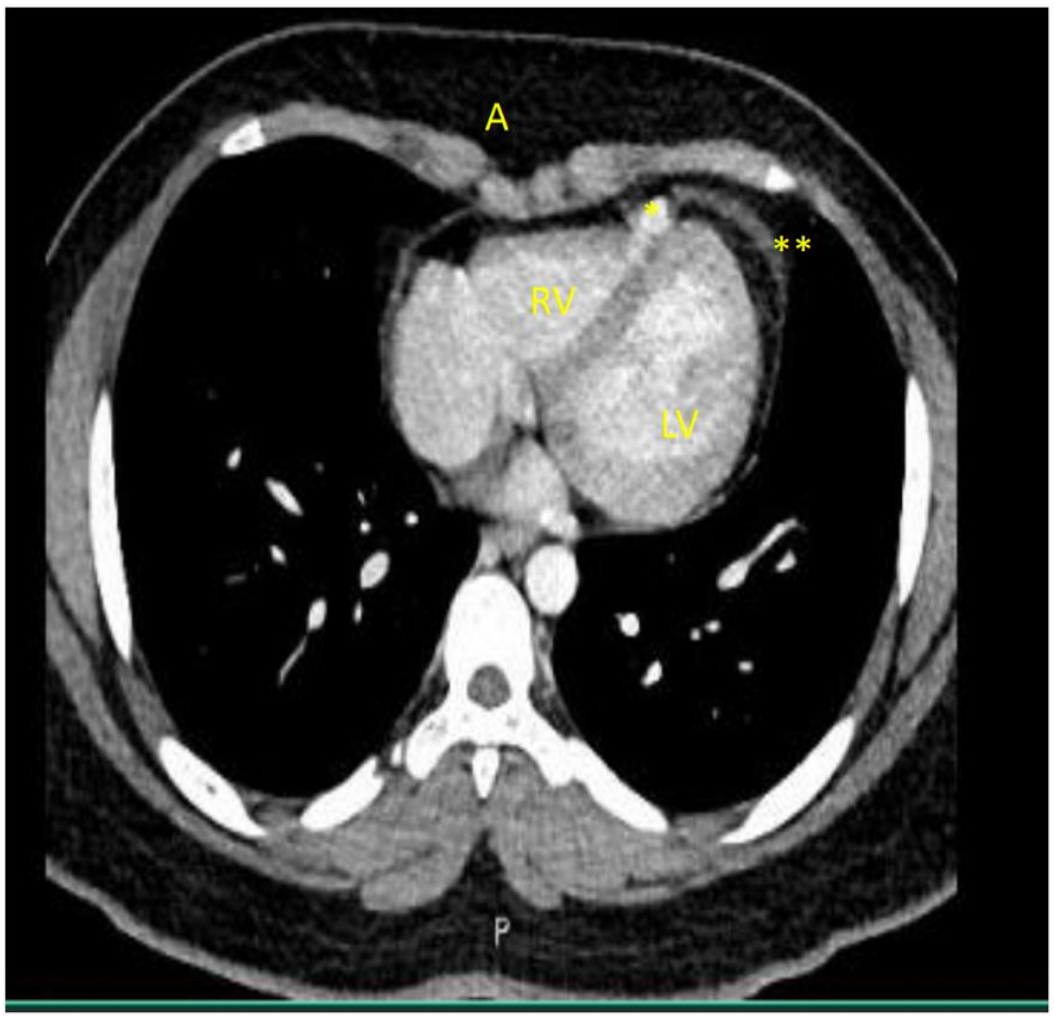


**Figure 2:** Transverse CT slice: A -anterior, LV-left ventricle, P-posterior, RV-right ventricle, * pseudoaneurysm, ** pericardial effusion.


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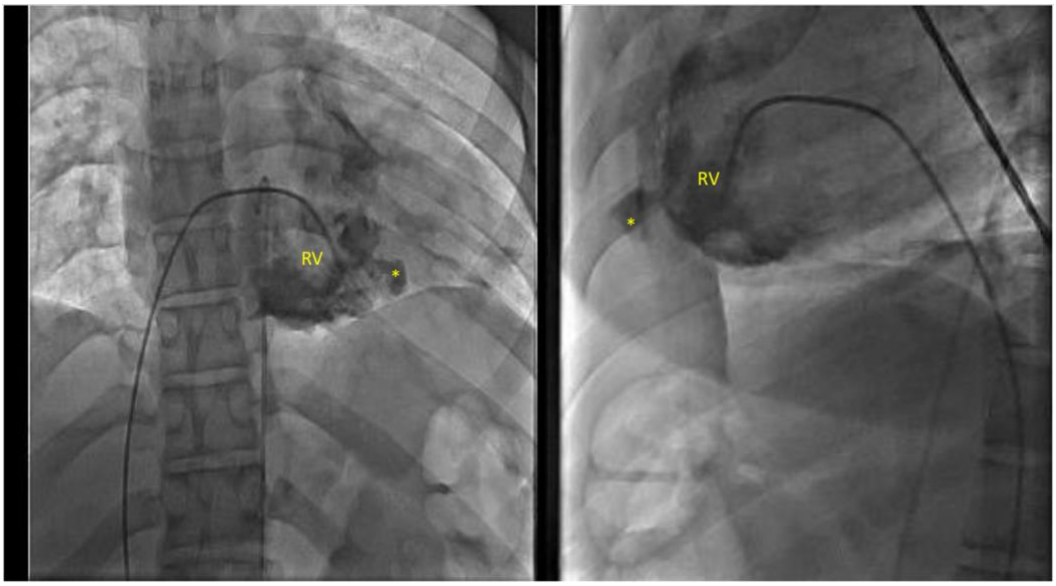


**Figure 3:** Catheterization angiogram via NIH catheter (AP, lateral): RV-right ventricle, *pseudoaneurysm.

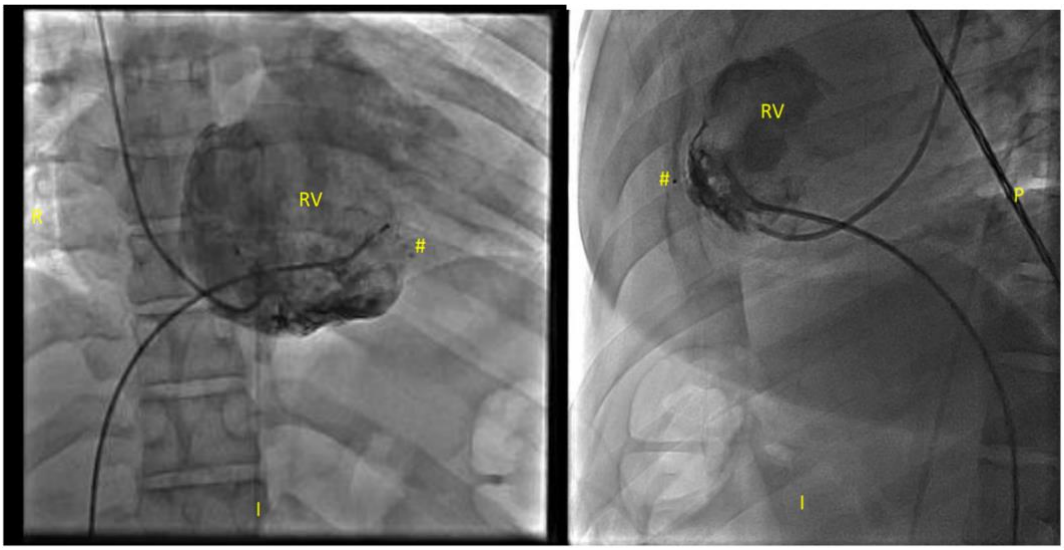


**Figure 4:** Angiograms (AP, lateral) R-right, I-inferior, P-posterior, # Amplatzer ductal occluder type 2 closing pseudoaneurysm, RV right ventricle.

**Conflict of Interest:** No authors have conflicts of interest.

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