

Mycotic Aneurysm of the Left Anterior Descending Coronary Artery Secondary to Mitral Valve Endocarditis - Importance of follow up Imaging

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Background

Infectious (mycotic) aneurysms result from septic arterial emboli to the vasa vasorum or direct infectious spread through the intimal vessels.

Methods

We present a case of a 16 year old male with a mycotic fusiform aneurysm in the left anterior descending (LAD) coronary artery secondary to *Gemella* species endocarditis successfully treated with anticoagulation therapy.

Results

A 16 year-old previously healthy male presented to the emergency room with acute, severe left-sided chest pain off and on for 1 hour. Associated symptoms included 6 weeks of migratory joint pains. His examination was significant for tachycardia (118 beats/min) and a grade IV/VI holosystolic murmur. Work up revealed an abnormal ECG with diffuse ST-T wave abnormalities suggestive of pericarditis and an elevated Troponin-T (1.8 ng/dL). Transesophageal echocardiography demonstrated multiple mobile vegetations adherent to the anterior mitral leaflet (largest 5 mm in diameter) and severe mitral regurgitation. Blood cultures confirmed *Gemella* species bacteremia. Cardiac MRI performed to assess for myopericarditis revealed myocardial infarction related to distal LAD coronary artery occlusion. Emergent mitral valve repair and vegetation debridement was performed. An elective postoperative coronary CTA three weeks after the operation demonstrated a mycotic fusiform aneurysm in the distal LAD. Three months post-op, the aneurysm remains unchanged with the patient maintained on therapeutic anticoagulation with an anti-platelet and vitamin K antagonist.

Conclusions

In our patient, pre-operative MRI did not reveal a mycotic aneurysm of the LAD. Only the follow up CTA demonstrated the mycotic aneurysm. Elective CTA or MRI is essential in the follow up of patients presenting with a myocardial infarction in the setting of endocarditis. Limited reports of coronary mycotic aneurysms preclude estimates of prevalence, rupture, and late complications. Thrombus formation with embolization / infarction and rupture of the aneurysm may be catastrophic. Conservative management, endovascular treatment, and surgical resection have been reported. For sterile aneurysms decreasing in size on serial imaging, intervention beyond anti-coagulation appears unnecessary.