Commentary: With left main coronary external compression, does compression relief correct stenosis?

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Central Message

If a giant PAA compresses the left main coronary artery causing angina, one should consider documenting stenosis relief with PAA resection or performing PCI to achieve it.

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Steger and colleagues¹ provide excellent imaging of a patient with a giant pulmonary artery aneurysm (PAA) assumed due to primary pulmonary hypertension. After the patient underwent aneurysm resection he had progressive right heart failure requiring veno-arterial extracorporeal membrane oxygenation support without survival beyond 2 weeks. The patient was also documented by imaging to have high-grade left main coronary (LMC) compression and stenosis and was symptomatic with angina for a few months before surgery, which involved only replacement of the aneurysmal pulmonary artery. It was assumed that releasing the external compression would correct the LMC stenosis and that priority had to be given to resecting the aneurysmal and dissected pulmonary artery. The authors cite Galie and colleagues,² who reported 48 patients with LMC compression who had LMC percutaneous coronary intervention (PCI) because of angina symptoms associated with pulmonary hypertension and PAA. They also reported 3 patients who had pulmonary artery reduction plasty all with excellent results. In another report on PAA from the Mayo Clinic by Reisenauer and colleagues,³ 38 patients with mean PAA diameter of 5.8 cm had only 1 patient with left main compression and all survived operation to repair the aneurysm. In a more recent study by Nuche and colleagues,⁴ among 77 patients with PAA, 7 patients had left main stenosis with 4 undergoing left main PCI. Although Steger and colleagues¹ describe the deterioration and eventual death of their patient as due to right heart failure, one has to question whether the assumption that relief of the external compression from the PAA would also relieve the LMC compression and whether concomitant

left main PCI may have improved the chances of cardiac recovery in this case. Adding coronary angiogram after PAA repair and documenting LMC stenosis relief or proceeding to left main PCI if significant stenosis persisted, even with the patient receiving veno-arterial extracorporeal membrane oxygenation support for right heart failure would have ensured that all interventions to achieve recovery had been done.

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