



Clinical vignette

Spontaneous Coronary Artery Dissection in Multiple Gestation Peripartum Period

Kootaybah Alsheikhly*, Hiba Obeid, Jason Donaghue

Ascension St John Hospital, Detroit, USA

* kootaybah.alsheikhly@ascension.org

ABSTRACT

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Background: Non-atherosclerotic spontaneous coronary artery dissection (SCAD) is defined as a non-traumatic and non-iatrogenic separation of the coronary arterial wall. SCAD is a highly uncommon cause of myocardial infarction (0.1 to 0.4 %).

Case presentation: 40-year-old African American woman, G1T1P0A0L2, with a past medical history of tobacco abuse and obesity who had uncomplicated cesarean section delivery for healthy twins two weeks prior presented with substernal, sudden onset chest pain. The pain radiated to left arm and back, pressure-like, and is associated with nausea, vomiting, and dyspnea.

On examination she was within normal limits except for a well-healed C-section wound. An electrocardiogram showed normal sinus rhythm with Nonspecific ST Abnormality. The first set of troponins less than 0.03, the second set shows troponins 0.18 and D-dimer 2340. The chest x-ray was unremarkable. An echocardiogram showed only mild to moderate mitral valve regurgitation. CT angiography of the chest showed no evidence of pulmonary embolism. She was started on a heparin drip and catheterization the next day showed no atherosclerotic coronary artery disease, but SCAD of inferior diagonal first branch noted. No intervention was done, heparin was stopped. The patient was started on aspirin, statin, Clopidogrel, Metoprolol, and Lisinopril per cardiology recommendation.

Conclusions: As an internist and primary care provider, we should keep Non-atherosclerotic SCAD in mind when a young female patient presents with acute chest pain. More studies are needed to find out the optimal management.

Current recommended conservative medical management includes long-term aspirin, beta blocker, and one year of clopidogrel, with the addition of a statin in patients with dyslipidemia.

Introduction

Non-atherosclerotic spontaneous coronary artery dissection (NASCAD) is defined as a non-traumatic and non-iatrogenic separation of the coronary arterial wall. SCAD is a highly uncommon cause of myocardial infarction (0.1 to 0.4 %) (1). Precipitating stressors that increase cardio-circulatory stress can

provoke the SCAD event (especially on a background of predisposing arteriopathy), and were reported in over 50 percent of cases in a contemporary series. These stressors include intense exercise or emotional stress, labor and delivery, intense Valsalva-type activities, recreational drug uses, and aggressive hormonal therapy (2,3).

Case presentation

40-year-old African American woman, G1T1P0A0L2, with a past medical history of tobacco abuse and obesity who had uncomplicated cesarean section delivery for healthy twins two weeks prior presented with substernal, sudden onset chest pain. The pain radiated to left arm and back, pressure-like, and is associated with nausea, vomiting, and dyspnea.

On examination, she was a healthy woman with a heart rate of 69 beats/min and blood pressure of 136/79 mmHg, and normal oxygen saturation. Physical examination was within normal limits except for a well-healed C-section wound.

An electrocardiogram showed normal sinus rhythm with Nonspecific ST Abnormality. The first set of troponins less than 0.03, the second set shows troponins 0.18 and D-dimer 2340. The chest x-ray was unremarkable. An echocardiogram showed only mild to moderate mitral valve regurgitation. CT angiography of the chest showed no evidence of pulmonary embolism. She was started on a heparin drip and catheterization the next day showed no atherosclerotic coronary artery disease, but SCAD of inferior diagonal first branch noted. Mildly reduced LVEF at 45% with anterolateral hypokinesis. No intervention was done, heparin was stopped. The patient was started on aspirin, statin, Clopidogrel, Metoprolol, and Lisinopril per cardiology recommendation.

Discussion

In most SCAD patients, conservative therapy is the preferred strategy after the diagnosis is secured (4). Until further evidence is available to guide therapy, a conservative approach is recommended in patients with stable clinical situations. Patients presenting with acute myocardial infarction who have symptoms of ongoing ischemia or hemodynamic compromise should be considered for revascularization with PCI or coronary artery bypass grafting. PCI with SCAD is often technically challenging in part due to the fragility of the vessel wall. Current recommended conservative medical management includes long-term aspirin, beta-blocker, and one year of clopidogrel, with the addition of a statin in patients with dyslipidemia. The utility of follow-up stress testing or coronary angiography is not known (5-9).

The uniqueness of the case is the multiple gestations and this supports the theory that cardio-circulatory stress can provoke the SCAD event.

Conclusion

As an internist and primary care provider, we should keep NASCAD in mind when a young female patient presents with acute chest pain. More studies are needed to find out the optimal management. Current recommended conservative medical management includes long-term aspirin, beta blocker, and one year of clopidogrel, with the addition of a statin in patients with dyslipidemia.

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