

# Spontaneous Coronary Artery Dissection: A Consideration in the Differential for Acute Coronary Syndromes

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## *Background:*

A spontaneous coronary artery dissection (SCAD) is defined as a non-traumatic, non-iatrogenic intramural hemorrhage which may originate from an intimal tear or bleeding from the vasa vasorum.<sup>1,2</sup> This hemorrhage creates a pressure-driven false lumen separating from the coronary artery wall, which can narrow the artery and restrict blood supply to the myocardium, resulting in ischemia symptoms.<sup>1</sup> SCAD is an underdiagnosed but important cause of acute coronary syndrome.

## *Case Presentation:*

A 43-year-old female with a history hypertension and a peripartum cardiomyopathy during two of three previous pregnancies with recovery seen on radionuclide myocardial perfusion imaging presented with atypical chest pain. EKG showed a chronic LBBB with inferolateral T-wave inversions, troponin was 0.25 and NT-proBNP 725. The patient's breathing became labored; chest x-ray showed flash pulmonary edema. She was temporarily placed on BiPAP, for which she was diuresed and improved clinically. Heparin, DAPT, carvedilol, and atorvastatin were started. Troponins trended to 19.5 and her chest pain despite medical treatments.

## *Decision-Making/Discussion:*

Due to refractory symptoms she was taken for catheterization. Diffusely narrowed chronic linear dissections were seen in the LAD and LCx; A SCAD was found in the proximal to distal RCA. An IABP was inserted, and a TTE showed an EF of 20%. The patient was transferred to a referral hospital for LVAD or transplant considerations.

The patient's chest pain persisted despite medications and IABP supplementation. Troponins trended to 50.1, and EKGs showed worsening T-wave inversions. She was taken for a second catheterization, and an Abbott XIENCE Sierra 4.0x8mm DES was deployed in the distal RCA. Two overlapping Abbott XIENCE Sierra 4.0x38mm and Abbott XIENCE Sierra 4.0x12mm DES were placed in the proximal RCA. An Abbott vascular Trek 4.5x15mm non-compliant balloon was deployed three times in the middle RCA and pulled proximally, with resulting TIMI-3 flow. The IABP was removed. Repeat TTE showed an EF of 40%. The patient was discharged, and goal directed medical therapy optimized at follow up.

## *Conclusion:*

This case presents a high complexity and technically challenging example of type 2 SCAD in a multiparous woman, successfully treated with PCI and medical therapies.

*References:*

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2. Main, A. & Shaw, J. (2018). Percutaneous Coronary Intervention for the Treatment of Spontaneous Coronary Artery Dissection. *Interventional Cardiology Clinics*, 8(2), 199-208. DOI: 10.1016/j.iccl.2018.11.008.