

Spontaneous LAD Artery Dissection in a 62-Year-Old Lad: A Case Report

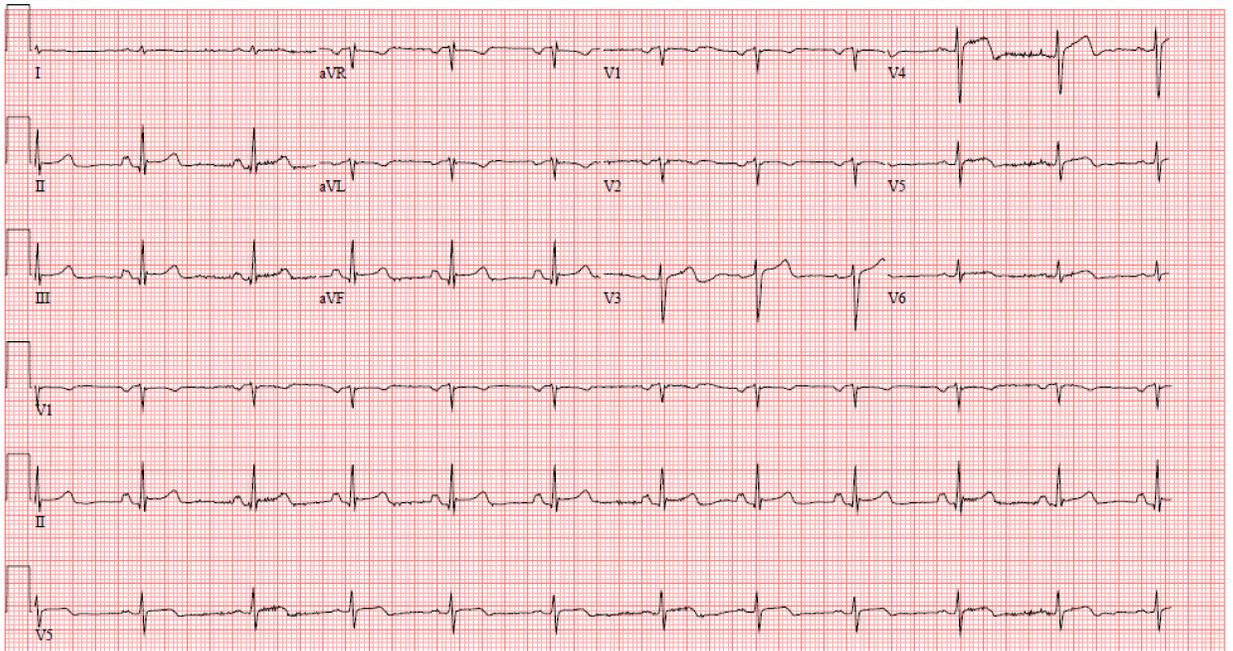
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Introduction including background information:

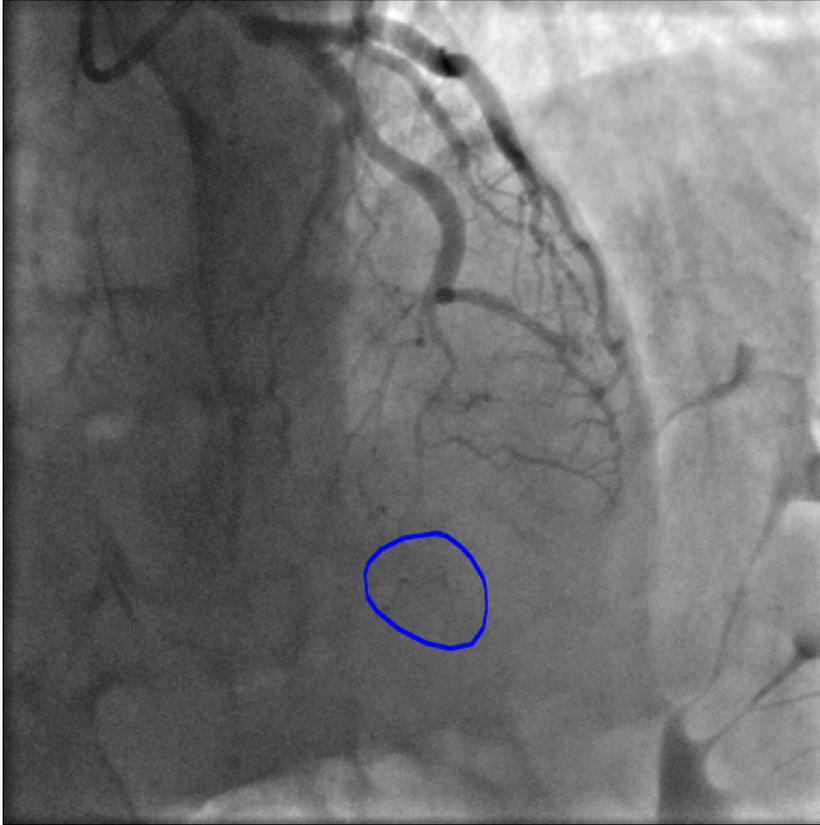
Spontaneous coronary artery dissections are rare, generally occurring in women who have a history of collagen disease, cocaine abuse, uncontrolled hypertension, smoking, or are postpartum. SCAD occurs in approximately 0.2-1.1% of angiographies (1). Though there is a common group that is prone to SCAD, it is important physicians to know it may can occur in any patient presenting with ACS and its management.

A 62 y.o. male presented to clinic with sudden onset, stabbing chest pain associated with SOB and diaphoresis. PMH significant for CAD, HTN, COPD, and tobacco use.

Clinic interventions included sublingual nitro and ASA with partial relief. EKG demonstrated ST elevation in V2-V6 with PR depression, ST elevation in V3,V4, and V5 indicative of acute MI/STEMI as seen in the image below.



Admission to the hospital with initiation of heparin drip. He underwent emergent radial percutaneous coronary cath which demonstrated reduced and hypokinetic apical LV function with EF of 45%, LAD D2 with large spontaneous dissection of distal and apical LAD, reaching but not wrapping the apex. Noted TIMI 3 flow, but vessel with diminutive and consistent with dissection as seen in the figure below.



CTA head, neck, chest, abdomen, and pelvis were performed, all without evidence for presence of fibromuscular dysplasia. He endorsed resolution of chest pain following cardiac catheterization without subsequent episodes since. Discharged with referral to cardiac rehabilitation and continued all risk stratifying medications initiated during hospitalization including ASA, plavix, statin, and beta blocker.

Review of the literature, conclusions, and outcomes of the case report:

Spontaneous coronary artery dissection is a rare occurrence most often associated with underlying vascular conditions such as fibromuscular dysplasia or environments that lead to high stress on the vessel. There have been few reports of SCAD that are not associated with the above mentioned, an even rarer occurrence (2,5).

Spontaneous coronary artery dissection is defined as a tear in the tunica intima causing blood accumulation beneath and potential occlusion of the vessel. The most common artery involved in SCAD is the left anterior descending artery in the mid to distal portion with 95% of patients presenting with chest pain, as described in the case above (2).

Stable patients may be candidates for conservative management if absent for high-risk features with ASA, beta-blocker plus or minus DAPT, ACE-I, and statins. There is consideration additionally undergo emergent cardiac catheterization if cardiac compromise is evident. Revascularization methods are divided into PCI with balloon/ stent versus CABG (4). Our patient was followed one month later in the clinic with complete resolution of any chest pain.

References should be provided that reflect a review of current literature:

Vanzetto G, Berger-Coz E, Barone-Rochette G, et al. Prevalence, therapeutic management and medium-term prognosis of spontaneous coronary artery dissection: results from a database of 11,605 patients. *Eur J Cardiothorac Surg*. 2009 Feb;35(2):250-4. doi: 10.1016/j.ejcts.2008.10.023. Epub 2008 Nov 28. PMID: 19046896.

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Robinowitz, Max, et al. "Spontaneous Coronary Artery Dissection and Eosinophilic Inflammation: A Cause and Effect Relationship?" *The American Journal of Medicine*, vol. 72, no. 6, 1982, pp. 923–928., doi:10.1016/0002-9343(82)90853-1.

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Zampieri P, Aggio S, Roncon L, Rinuncini M, Canova C, Zanazzi G, Fiorencis R, Zoncin P. Follow up after spontaneous coronary artery dissection: a report of five cases. *Heart*. 1996 Feb;75(2):206-9. doi: 10.1136/hrt.75.2.206. PMID: 8673763; PMCID: PMC484263.