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Case Report and Review: Spontaneous Coronary Artery Dissection (SCAD)

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Case report and review: Spontaneous Coronary Artery Dissection (SCAD)

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Abstract

Spontaneous coronary artery dissection (SCAD) is a rare cause of acute coronary syndrome or sudden death (Heart BMJ). SCAD has a high incidence in a younger, female population with an association with peripartum or postpartum status (AHA journal). Connective tissue disorders and vasculitides are also associated w/ SCAD. The purpose of this poster will be to examine the presentation and risk factors associated with SCAD and to discuss optimal treatment strategies.

Keywords

- Idiopathic, iatrogenic, intramural hematoma, intimal dissection, SCAD

Conflicts of Interest

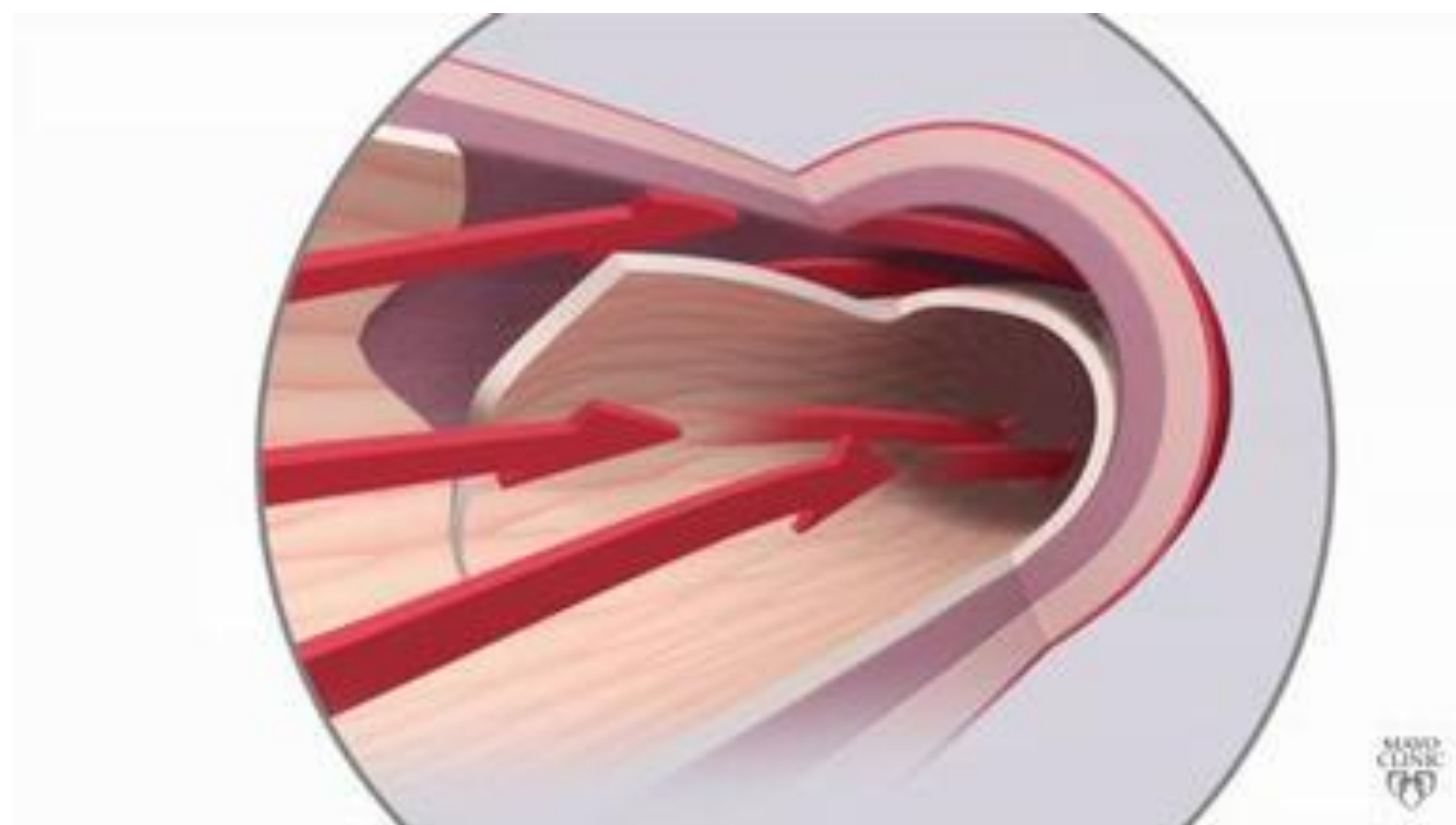
There was no funding related to this case report. The authors declare that they have no conflict of interest.

Case

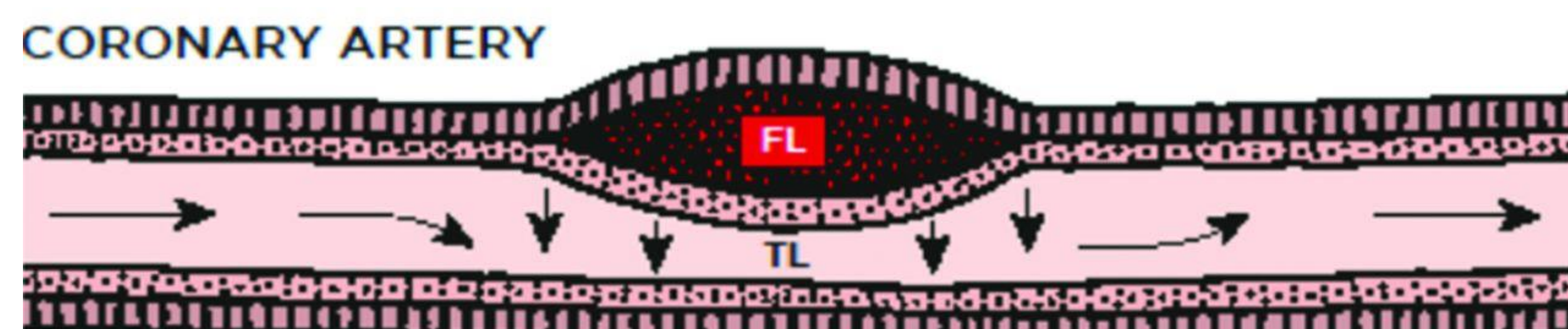
49 y/o F presents for chest pain w/ radiation into L shoulder and back pain that began an hour prior to arrival. She has associated shortness of breath. Symptoms have been improving since arrival. Patient has a history of HTN but is non-compliant w/ prescribed lisinopril. Vitals are 97.8F, HR 100, Resp 16, BP 230/114, SpO2 100%. Patient has never seen a cardiologist.

Bedside EKG demonstrated sinus tachycardia at 101 w/ ST elevation in anterior leads without old EKG for comparison. High-sensitivity Troponin 56. Repeat EKG demonstrated similar findings, STEMI hotline subsequently called. Patient started on cardene drip and airlifted to cath-lab. Urgent LHC revealed diffuse dissection of the distal lad w/ TIMI 3 flow without significant atherosclerosis. No coronary intervention, peak Trop 1331 w/ medical intervention. Diagnosis of SCAD w/ 70% LAD occlusion.

Anatomy and Physiology



Coronary Artery Dissection



Discussion

Spontaneous Coronary Artery Dissection is rare but dangerous cause of ACS and sudden death. Broadly Coronary Artery Dissection can be broken into two categories; iatrogenic and idiopathic. Iatrogenic Coronary Artery Dissection is most commonly secondary to cardiac angiography. Spontaneous Coronary Artery Dissection (SCAD) is characterized as spontaneous, non-traumatic and non-iatrogenic separation of the coronary artery wall by intramural hemorrhage, which can occur with or without inciting intimal tear. Two proposed mechanisms of SCAD are intimal tear resulting in hemorrhagic separation of two lumens and rupture of the vas-vasorum causing spontaneous bleed into arterial wall producing intramural hematoma. Vaso-vasorum rupture results in SCAD which is commonly missed on coronary angiography because often the dissection appears only as arterial compression.

SCAD disproportionately effects middle aged females. According to PubMed epidemiologic review, among women presenting with ACS, the prevalence of SCAD was reported to be higher at 8.7% among those less than 50 years old; furthermore, among women presenting w/ ST elevation, prevalence of SCAD was even higher at 10.8%. Women who have a history of true myocardial infarction, prevalence of SCAD rose to 24% below 50 years old.

The patient described in this case was below 50 years old without history of MI or known connective tissue disorders. She presented with chest pain and ST-elevations in anterior leads with an elevated troponin. She was transferred to Jefferson Center City for presumptive angiography and possible stent placement, but ended up receiving conservative medical treatment. According to a retrospective single-center cohort study published in the American Heart Association Journal, in-hospital mortality remains low for SCAD regardless of initial treatment, and percutaneous coronary intervention is associated with higher risks of complication. Our patient received conservative management after being diagnosed w/ LAD dissection of 70% on coronary angiography. Patient was managed with blood pressure control with a systolic below 120 on a cardene drip. Follow-up outpatient ECHO demonstrated an EF above 60% and patient was kept on outpatient blood pressure medications and antiplatelet medications.

Conclusions

- The emergence of easily accessible nootropic drugs poses an evolving challenge for physicians. Physicians should remain informed of the existence of new substances-of-abuse, their corresponding mechanisms of action and their withdrawal managements. Phenibut withdrawal may mimic the presentation of alcohol and benzodiazepine withdrawal. Baclofen has shown potential in successfully treating Phenibut withdrawal both outpatient and inpatient.

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