

AMPHETAMINE INDUCED SPONTANEOUS CORONARY ARTERY DISSECTION PRESENTING AS ST-ELEVATION MYOCARDIAL INFARCTION

Khawaja Hassan Akhtar, Jagjit Khosla, Aneil Bhalla, Mahmood Khattab, Mohamad Khattab, Usman Baber

Department of Medicine, Section of Cardiovascular Medicine, University of Oklahoma Health Sciences Center

BACKGROUND

Spontaneous coronary artery dissection (SCAD) is rarely reported in patients with a history of amphetamine abuse. We present a case of ST-elevation myocardial infarction (STEMI) secondary to SCAD in the setting of amphetamine abuse

CASE

A 58-year-old male with remote history of coronary artery disease with percutaneous coronary intervention (PCI) in the right coronary artery (RCA), active smoking, and methamphetamine use, presented with acute substernal chest pain. EKG showed ST-segment elevation in leads V3-V6. The urine drug screen was positive for amphetamine. The patient received systemic thrombolysis while waiting to be transported to a PCI-capable facility. Coronary angiography showed a moderate and hazy lesion in mid left anterior descending (LAD) artery (Figure 1,2). Optical coherence tomography (OCT) of mid-LAD demonstrated SCAD (Figure 3)

DECISION MAKING

Dissected LAD section had a cross-sectional area of 3 mm² with TIMI-3 flow distally. In the setting of stable vitals and resolution of chest pain, the decision was made to treat the patient conservatively with dual antiplatelet therapy. Troponin T peaked at 4828 ng/L. An echocardiogram showed LV ejection fraction of 25%. Patient was started on guideline-directed medical therapy and subsequently discharged with close outpatient follow-up

This case highlights the importance of considering SCAD as a cause of acute coronary syndrome in the setting of illicit drug abuse

Coronary angiography is the gold standard of diagnosis, and intracoronary imaging can assist in definitive diagnosis

CONTACT INFO:
For more information, email
Khawaja-Akhtar@ouhsc.edu

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DISCUSSION

SCAD is an acute coronary event relating to development of hematoma within the tunica media, leading to separation of the intima from the underlying vessel and compressing the true lumen causing ischemia. Amphetamine causes vasoconstriction of coronary arteries, and high arterial wall shear stress can lead to dissection. Conservative management with anti-platelet and beta-blocker therapy is favored in SCAD in the absence of hemodynamic instability or active ischemia

FIGURES

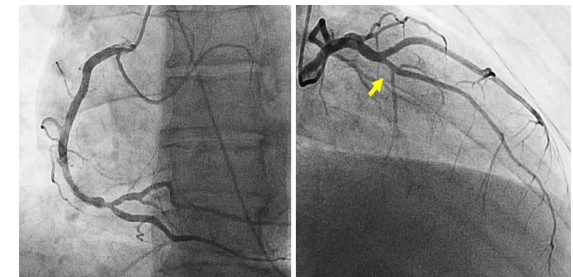


Figure 1 – Patent stent in RCA with moderate disease

Figure 2 – Moderate disease in mid-LAD artery

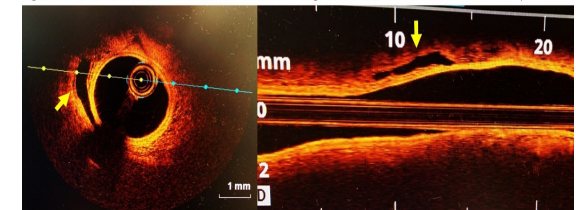


Figure 3 – OCT showing dissection in the mid-LAD artery

DISCLOSURE INFORMATION

The authors do not have any relevant industry relationships to disclose