

## Spontaneous Coronary Artery Dissection Associated with Myocardial Bridging as a Cause of Acute Myocardial Infarction

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### Case Presentation

A 44-year-old woman with no prior cardiovascular history presented with exertional angina, prompting her visit to the emergency department.



#### Initial Evaluation

Upon admission, the patient was hemodynamically stable. However, the electrocardiogram (ECG) showed ST-segment elevation in the anterior and inferolateral leads, along with elevated cardiac troponin levels.

#### Diagnosis And Management

A diagnosis of ST-segment elevation myocardial infarction (STEMI) was established, and the patient underwent fibrinolytic therapy. She remained free of electrical or mechanical complications thereafter.

#### Follow-up

As part of the diagnostic and therapeutic work-up, coronary angiography was performed. It revealed a myocardial bridge in the mid-segment of the left anterior descending (LAD) artery with a milking effect, along with a type IIA spontaneous coronary artery dissection (SCAD) in the distal segment of the same artery. The patient's clinical course post-procedure was favorable.



**Figure 1.** Angiographic projections showing evidence of type IIA spontaneous coronary artery dissection in the distal segment of the left anterior descending artery (arrowhead). CX: circumflex artery; LAD: left anterior descending artery; LMS: left main stem.

### Conclusions

SCAD accounts for 0.1–4% of all acute coronary syndrome (ACS) cases. Among women under 50 years of age presenting with ACS, SCAD is observed in approximately 35% of cases. While most SCAD presentations are non-ST-segment elevation myocardial infarctions (NSTEMIs), in cases like ours with ST-segment elevation, fibrinolysis is not recommended. However, in developing countries like ours, primary percutaneous coronary intervention (PCI) may not be readily available as a first-line reperfusion strategy for STEMI patients. Consequently, pharmacological reperfusion is often employed, which significantly increases the risk of dissection extension, vessel rupture, or intramural hematoma formation.