AN UNUSUAL CASE OF LEFT MAIN CORONARY ARTERY THROMBUS TREATED WITH GUIDE CATHETER ASPIRATION

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Introduction

- Left main coronary artery (LMCA) thrombosis during acute myocardial infarction is rare and carries high mortality. The etiology and clinical presentation are variable. Our current understanding of LMCA thrombus largely comes from case reports.

Etiology

- Acute Plaque Rupture
- Embolization
- Dissection
- Extrinsic compression

Case Presentation

- **HPI:** A 53-year-old male presented to the ED with intermittent substernal chest pain for the previous two days. On admission, his pain became continuous, more intense and similar to the pain he had with a previous MI five years previous. His pain did not resolve with medical therapy so invasive evaluation was recommended.

- **PMH:** CAD with previous MI (2014) treated with 2.5 x 28 DES LCx, Ischemic cardiomyopathy, HLD.
- **FHx:** The patient was adopted.
- **SHx:** Daily tobacco use, ½ ppd for 40 years, occasional alcohol use, no drug use.

Vitals on presentation: BP 134/79; HR 69; RR 18; Temp 36.7°C; 99% on RA; BMI 20.9

Cardiovascular Exam:

- Normal S1 and S2.
- Regular rate and rhythm.
- No murmurs, rubs, or gallops appreciated.
- Distal pulses are intact bilaterally.

- **Labs:**
  - Troponin: 15
  - Potassium: 3.9, Creatinine 0.74

Clinical Course

- Initial presentation consistent with ACS/NSTEMI
- Patient was taken for left heart catheterization with Bivalirudin for PCI
- pLCx 100% stenosis in previous stent was treated with 2.5 x 28 mm Xience Sierra DES deployed within the previous stent
- 3.0 x 18mm Xience Sierra deployed at the ostium of LCx followed by high-pressure post dilation
- Post PCI angiogram demonstrated a large, mobile thrombus trapped behind the proximal stent extending into LMCA
- Eptifibatide was initiated. Multiple passes with an aspiration thrombectomy catheter and PTCA were unsuccessful
- Aspiration directly through a CLS 3.5 guide catheter extracted 2 large fragments of thrombus. The largest measured 5 mm in diameter
- There appeared to be a nearly complete resolution of thrombus. The patient had repeat angiogram after Eptifibatide infusion revealed complete resolution

Discussion

- LMCA thrombosis is rare and carries a high mortality. Our case demonstrated an unusual cause of thrombus extending from a stented vessel into the LMCA.
- In the setting of AMI, we pursued several options that were described in the literature without immediate success.
- During runs with the aspiration catheter, we observed that the tip of the guide catheter was in close proximity to the mobile thrombus in the LCx and LMCA. This prompted an attempt at a novel technique of aspiration thrombectomy via the guide catheter that demonstrated immediate success.
- Our patient experienced no immediate or perioperative complications.

Aspiration of thrombus through a guide catheter may be an effective alternative treatment in treating LMCA thrombus.

Reference


Figure 1. 12 lead EKG demonstrating lateral ST-depression with T waves inversion (A). Initial angiogram demonstrating 100% pLCx stenosis (B). Angiogram after stent deployment revealed trapped thrombus extending into LMCA. (C). Angiography after multiple passes with the Pronto thrombectomy catheter demonstrating persistent thrombus (D&F). Angiography after aspiration through a CLS 3.5 guide catheter demonstrating successful removal of the thrombus (E&G). Intravascular ultrasound (IVUS) demonstrating the thrombus in the LMCA (H). Two fragments of aspirated thrombus. The largest measured 5 mm in diameter (I).