

Addi Mokhtar¹¹ Cardiology Department, Institut Jantung Negara, Malaysia

Introduction

Catheter-induced coronary artery dissection (CICAD) is a rare but potentially life-threatening complication of coronary angiography and percutaneous coronary intervention that may result in myocardial ischemia, hemodynamic collapse, emergency surgery, or death if not promptly recognized and managed.

Objective

To illustrate the technical complexity and bailout management of extensive CICAD involving the left main bifurcation.

Description of the Problem

A 78-year-old lady with multiple comorbidities was electively admitted following a recent NSTEMI-ACS with preserved left ventricular ejection fraction of 63%. Coronary angiography with OCT demonstrated moderate disease in the mid LAD with a minimal lumen area of 4.25 mm², while the remaining coronary arteries were normal. During the final angiographic injection using an EBU catheter, an extensive spiral dissection involving the left main coronary artery extending into the LAD and LCx was noted. The LAD was immediately rewired, and IVUS demonstrated intramural hematoma extending from the LM into the proximal LAD and LCx. Bailout PCI was performed with predilatation of the LM-LAD using a semi-compliant 3.0/15 mm balloon, followed by deployment of a 4.0/30 mm stent and proximal optimization technique using a non-compliant 4.5/8 mm balloon. Repeat IVUS confirmed good stent apposition with sealing of the hematoma. Subsequent rewiring of the LCx was successful with decompression of hematoma using non-compliant and cutting balloon. While preparing LCx, the patient developed rapid atrial fibrillation with hemodynamic instability requiring synchronized cardioversion. Repeat angiography demonstrated TIMI 3 flow in all vessels with minimal residual aortic root staining. The patient recovered well and was discharged after CCU monitoring.

Results

Repeat coronary angiography performed two weeks later demonstrated a patent LM-LAD stent with preserved TIMI 3 flow and no residual dissection. Prompt recognition, intravascular imaging guidance, and timely bailout PCI can successfully salvage extensive CICAD involving the left main bifurcation and prevent catastrophic outcomes.