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Successful use of Tip Detection ADR for ostial RCA dissection in ACS.

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We report a case in which the tip detection antegrade dissection and re-entry (TD-ADR) technique?originally developed for CTO interventions?was successfully applied as a bailout strategy during primary PCI for ACS complicated by catheter-induced dissection.

A man in his 60s presented with chest pain. Electrocardiography revealed ST-segment elevation in leads II, III, and aVF, consistent with acute inferior myocardial infarction. Emergency coronary angiography showed total occlusion at the ostium of the right coronary artery (RCA), and primary PCI was initiated.

An initial guidewire was advanced, but could not pass beyond the proximal RCA. IVUS confirmed that the wire had entered the subintimal space from the RCA ostium. A second wire was then advanced under IVUS guidance in an attempt to re-enter the true lumen. However, the true lumen was severely collapsed, and re-entry from the widely expanded false lumen proved unsuccessful.

Careful IVUS evaluation revealed a narrowed portion of the dissection cavity near a side branch, likely due to preserved medial structure at the bifurcation. At this location, the IVUS catheter was able to closely approximate the collapsed true lumen. Using the TD-ADR technique, the guidewire was successfully redirected into the true lumen. A drug-eluting stent was deployed, achieving full revascularization.

The patient developed sinus arrest and cardiogenic shock during the procedure. Temporary pacing, IABP support, and catecholamines stabilized hemodynamics. He recovered well and was discharged home on day 12.

This case highlights that TD-ADR, though designed for CTO-PCI, may serve as an effective bailout option in ACS complicated by extensive coronary dissection.