1031 **Retrieval of a Stent Deformed by the Nose Cone of a Directional Coronary Atherectomy Catheter**

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Introduction: We report a case of stent deformation and subsequent retrieval during directional coronary atherectomy (DCA). The patient was a 51-year-old male who had undergone primary PCI for acute coronary syndrome two weeks prior. During that initial procedure, a 3.5 × 18 mm Xience Skypoint stent was deployed in the proximal left anterior descending artery (LAD) using a jailed balloon technique to protect a diagonal branch, followed by kissing balloon inflation (KBI). A severe, eccentric stenosis in the distal left main trunk (LMT) extending to the ostium of the LAD was noted but left untreated as TIMI grade 3 flow was present.

Case Presentation: The patient presented for a staged PCI to treat the distal LMT to ostial LAD lesion. An 8Fr guiding catheter was engaged, and intravascular ultrasound (IVUS) revealed malapposition of the previously deployed stent at the diagonal bifurcation. The stent was successfully post-dilated with a 4.5 × 6 mm non-compliant balloon. Subsequently, a DCA catheter was advanced to treat the ostial lesion. While withdrawing the DCA device after treatment, significant resistance was encountered. Fluoroscopy confirmed that the stent had become entangled on the device's nose cone, resulting in severe deformation.

Management and Outcome: There was no evidence of coronary perforation. The DCA catheter, with the entangled stent, was carefully withdrawn into the guiding catheter, which displaced the stent proximally within the LAD. Initial attempts to recross the stent with a 1.0 mm balloon were unsuccessful. A retrieval attempt using a twisted-wire technique with the support of an 8Fr Guidezilla guide extension catheter also failed. Ultimately, the guiding catheter itself was advanced to the site, allowing the deformed stent to be captured and removed with the catheter. Examination of the retrieved stent revealed severe torsional deformation with adherent tissue consistent with coronary intima.
IVUS imaging of the vessel then showed a large dissection extending into the media with an associated intramural hematoma. The dissection in the mid LAD was sealed by deploying a 3.0 × 33 mm Xience Skypoint stent. The LMT to proximal LAD was further treated with a 4.0 × 18 mm Xience Skypoint stent extending from the LMT. The procedure was concluded after a final KBI. Two-month follow-up angiography and IVUS demonstrated vessel healing without evidence of coronary aneurysm formation.