

1042 **Catheter-Induced Left Main and Aortocoronary Dissection During Guide Engagement in a Patient with
Chemotherapy-Induced Cardiomyopathy: IVUS-Guided Bail-Out Stenting and Cutting-Balloon
Fenestration of a Propagating Intramural Hematoma**

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Background A 71-year-old woman was admitted with worsening dyspnea and acute decompensated heart failure. She had received neoadjuvant doxorubicin–cyclophosphamide followed by docetaxel for left breast cancer (mastectomy, 2024) and had systemic lupus erythematosus. Left ventricular ejection fraction had declined from 61% to 30% with new regional wall-motion abnormalities in the left circumflex (LCx) and right coronary artery (RCA) territories, suggesting superimposed ischemia on chemotherapy-induced cardiomyopathy. NT-proBNP was 7,162 pg/mL, and ECG showed T-wave inversion in V2–V6 with QTc prolongation (501 ms).

Diagnostic findings After stabilization, coronary angiography via the right radial artery revealed 90% stenosis of the proximal LCx, 80% of the proximal RCA, and 70% of the posterior descending artery, with only minimal diffuse disease of the left anterior descending artery.

Complication Staged PCI of the LCx was planned first. During engagement of a 6-Fr XB 3.5 guiding catheter, a catheter-induced dissection of the left main (LM) occurred, extending retrogradely toward the aortic root. The vessel was immediately wired, and IVUS confirmed an intramural hematoma involving the LM and propagating along the proximal-to-distal LCx.

Management The LM was sealed with immediate bail-out stenting (Synergy 4.0×20 mm) to close the entry point. For the LCx hematoma, a 2.5×10 mm cutting balloon was used to create an intimal fenestration and decompress the hematoma. Because a 40% residual stenosis persisted, the LCx was stented with overlapping everolimus-eluting stents (2.5×33 mm distally, 2.75×23 mm proximally), achieving a post-stent minimal luminal diameter of 2.71 mm. Emergent CT aortography showed no dissection propagation beyond the sinus, and the patient remained hemodynamically stable throughout. Peak high-sensitivity troponin I was 3.6 ng/mL (reference <0.04) without Q-wave infarction.

Outcome Staged PCI of the RCA (Xience Skypoint 2.75×33 mm) was completed four days later; angiography at that time confirmed patent LM and LCx stents without residual hematoma. The patient was discharged on dual antiplatelet therapy and guideline-directed heart-failure therapy, and was asymptomatic at the first outpatient visit. Surveillance angiography is planned at six months.

Teaching points (1) Catheter-induced LM dissection with aortocoronary extension is a rare but life-threatening complication; immediate wiring and entry-point sealing with a stent is the cornerstone of management. (2) IVUS is essential to define the true lumen and the longitudinal extent of the intramural hematoma before stenting. (3) Cutting-balloon intimal fenestration is a useful adjunct to decompress a propagating hematoma and restore luminal caliber, potentially limiting the stented segment. (4) CT aortography should follow to exclude aortic propagation, which would mandate surgical consultation.