1170 **Excimer Laser-Facilitated PCI in a Tortuous, Severely Calcified LCx Lesion: Enabling IVL and Balloon Delivery Without Full Lesion Crossing**

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[Target Lesion]

A man in his 50s with a history of PCI to the LAD and RCA was referred for myocardial ischemia in the LCx territory, as demonstrated by cardiac MRI. Coronary angiography revealed severe concentric calcification and significant tortuosity extending from the proximal to mid LCx (#13?15). Despite predilation with a Ryurei 1.5 × 10 mm balloon, a SHOCKWAVE IVL balloon (2.0 × 15 mm) could not be advanced. Rotational and orbital atherectomy were deemed inappropriate due to the vessel's tortuous anatomy and increased risk of perforation.

[Strategy]

Excimer laser coronary atherectomy (ELCA) was performed using a 0.9 mm catheter (80 mJ/mm?, 80 Hz) via a GUIDEPLUS II EL extension catheter. Although the laser catheter could not cross the lesion entirely, ablation at the point of impaction enabled delivery of a KIZASHI 2.5 × 10 mm balloon, allowing successful lesion dilation. An AnteOwl WR IVUS catheter was then advanced, revealing circumferential calcium. The SHOCKWAVE IVL balloon was subsequently delivered using the same guide extension, and IVL treatment induced evident calcium fractures on IVUS.

Further downstream, at the distal #13 just proximal to the bifurcation into #14 and #15, additional calcification again obstructed balloon passage. Repeat ELCA at the same settings enabled delivery and expansion of the KIZASHI balloon.

[Final Result]

These steps allowed successful deployment of a Xience Skypoint DES (2.5 × 33 mm) from #13 to #15. The #14 side branch was treated with a Ryurei 2.0 × 15 mm balloon followed by a 2.0 × 15 mm Agent drug-coated balloon. Final IVUS confirmed sufficient plaque modification, optimal stent expansion, and vessel patency. This case highlights the niche role of ELCA in facilitating device delivery and lesion preparation in complex, tortuous, and heavily calcified coronary anatomy where conventional atherectomy is not feasible.