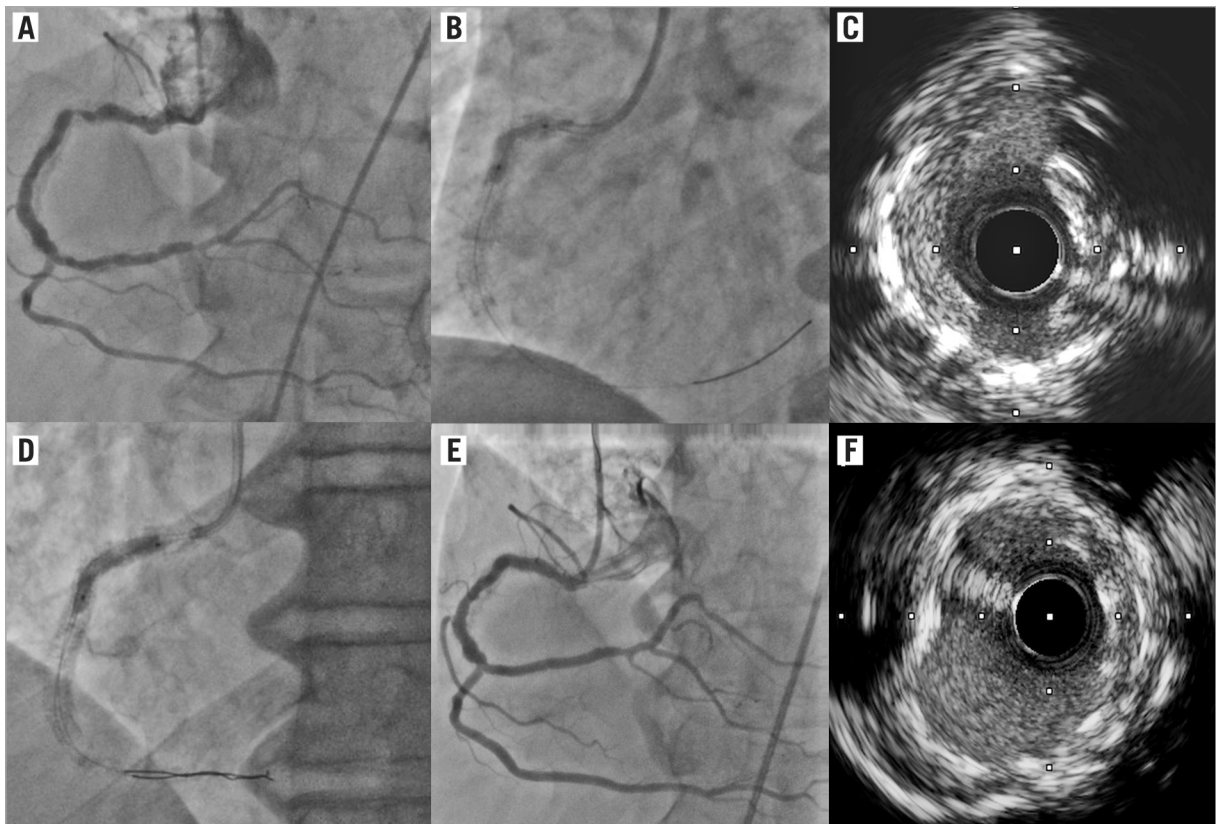


Intracoronary lithoplasty-facilitated expansion of an undilatable intra-stent lesion



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A 59-year-old male with a history of prior (12 years) PCI and drug-eluting stent (DES) implantation on the proximal/mid right coronary artery (RCA) was admitted because of unstable angina. Coronary angiography revealed a focal in-stent restenosis (ISR) at the proximal RCA (**Panel A**).

Predilatation using a 3.5 mm non-compliant (NC) balloon inflated up to 30 atm was attempted with persistent under-expansion (**Panel B**). Intravascular ultrasound (IVUS) revealed a heavily calcified neo-intimal plaque at the un-expanded site (**Panel C**). The lesion was approached by a 3.5×12 mm (sized 1:1 to the reference artery ratio) coronary lithoplasty balloon (LB) (Shockwave IVL, Shockwave Medical, Santa Clara, CA, USA) inflated up to 4 atm before releasing sequential lithotripsy runs at the lesion site, resulting in a full LB and NC (3.5 mm at 24 atm) expansion (**Panel D**). A new-generation DES (3.5×15 mm) was finally implanted and post-dilated (4.0 mm NC balloon) at the target site obtaining a good final angiographic and IVUS result (**Panels E-F**).

The use of a coronary LB was recently described as a novel option to facilitate the delivery of interventional equipment and improve stent expansion after modification of calcified plaques in native coronary arteries¹. To date very little is known on the performance of the LB for the treatment of undilatable in-stent lesions. Our images highlight the importance of a new technology to overcome the potential limitations of currently available devices (i.e., rotational atherectomy, excimer laser, very high pressure NC balloons) for the treatment of resistant in-stent lesions.

Conflict of interest statement

The authors have no conflicts of interest to declare

Reference

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