Stent-Less Percutaneous Coronary Intervention of Calcified Nodule Causing Non-ST-Elevation Myocardial Infarction — Serial Optical Coherence Tomography Follow-up After Rotational Atherectomy Followed by Drug-Coated Balloon Angioplasty—

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A 70-year-old woman was referred because of non-ST-elevation myocardial infarction. Because urgent coronary angiography (CAG) showed ostial stenosis in the left circumflex artery (**Figure A**), we subsequently performed optical coherence tomography (OCT) imaging to assess lesion morphology; a calcified nodule (CN) with white thrombus was found in the ostial stenosis (**Figure B**). To avoid crossover stenting, we decided to perform stent-less percutaneous coronary intervention (PCI) for the ostial stenosis. After rotational atherectomy using a 1.5-mm burr, predilatation by scoring balloon (NSE ADVANCE 3.0×13 mm, NIPRO, Osaka, Japan) was performed, followed by drug-coated balloon angioplasty (SeQuent please 3.0×15 mm, B Braun, Melsungen, Germany). Finally, good vessel expansion (>4.9 mm²) was obtained without major coronary dissection (**Figure C,D**; **Supplementary Movie 1**). After 5 months, CAG and OCT revealed no restenosis or development of CN (**Figure E,F**; **Supplementary Movie 2**).

It is reported that CN is related to poor clinical outcomes of stent implantation within several months,¹ but the optimal strategy for CN has yet to be established. Although some case reports show the safety of stent-less PCI of stable CN lesions, this procedure for acute coronary syndrome (ACS)-related CN has never been reported. If sufficient

Figure. (A) Preprocedural coronary angiography (CAG) and (B) optical coherence tomography (OCT). (C) Post-procedural CAG and (D) OCT. (E) 5-month follow-up CAG and (F) OCT. Red arrows: culprit lesion. White arrow: calcified nodule. Dotted line: tissue ablated by rotational atherectomy.

luminal area can be obtained without major coronary dissection, stent-less PCI could be a therapeutic option even for CN causing ACS.

Disclosures

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Reference

1. Prati F, Gatto L, Fabbiochi F, Vergallo R, Paoletti G, Ruscica G, et al. Clinical outcomes of calcified nodules detected by optical coherence tomography: A sub-analysis of the CLIMA study. *EuroIntervention* 2020; **16**: 380–386.

Supplementary Files

Supplementary Movie 1. Post-PCI OCT image.

Supplementary Movie 2. Follow-up OCT image.

Please find supplementary file(s);
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