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Which way to go? -A difficult case to treat eccentric severe calcification-

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An 86-year-old female was admitted to our hospital for non-ST-elevation myocardial infarction. she had a history of double valve replacement and coronary artery bypass grafting(Ao-SVG-CxOM). Urgent coronary angiography showed a patent bypass graft, but tandem severe stenoses of left-anterior coronary artery(LAD) due to severe calcification were observed. Therefore, we decided to perform percutaneous coronary intervention for tandem LAD lesions.

Because of her severely reduced cardiac function, intra-aortic balloon pumping was introduced at the beginning. The middle part of LAD was narrowing with eccentric calcification at the lesser curvature side. However, the route identified by angiograph was not only at the greater curvature side but also at the lesser curvature side within the calcification. SION wire successfully passed that intra-calcified channel. To ablate a thick calcified plaque, we selected to perform Rotablator. Because micro catheter could not pass through the channel, ROTAWIRE Drive floppy was crossed the channel alone. Then Rota 1.25mm burr was delivered, but it was unable to pass through the lesion. Even after changing the wire to ROTAWIRE Drive Extra support, insertion of GuideLiner V3 to enhance back up force, increasing the rotation speed to 220,000 rpm, and using a pecking motion, it still could not pass through. Since even a small diameter balloon could not pass through the channel, so we decided to change an ablation route to another route at greater curvature side. SION black wire could select that route and micro catheter easily followed the wire, then the wire was exchanged to ROTAWIRE Floppy. Rota 1.25mm burr successfully passed through the lesion, and a large Rota burr(1.5mm) was introduced to further ablate the calcified plaque. After the rotational atherectomy, lesion preparation using cutting balloon was performed to each tandem lesion. Then, drug eluting stent was deployed to each lesion and successful revascularization was achieved.

We have recently performed ALCADIA technique in cases that have lesions with thick eccentric calcification or calcified nodule. However, in this case, it was very difficult to rebuild the strategy due to a failure of device passage. So we report this case because it is worth sharing.