

1101 A severely calcified coronary lesion that a burr cannot penetrate

As with all atherectomy devices, complications can arise, and this is not exclusive to rotational atherectomy. Based on multicenter registries and numerous observational studies, these complications include death in approximately 1%, myocardial infarction in 1.2 to 1.3%, and emergency CABG in 1.0% to 2.5% of cases. In addition to the clinical complications, the angiographic complications of RA include artery dissection in (10%), abrupt vessel closure (1.8%), a slow-flow phenomenon (1.2% to 7.6%), perforation (1.5%), and severe spasm (1.6%). Another unique but rare complication of RA is dissection caused by wire bias in the angulated lesion.

This case was a 81-year-old female with hypertension and diabetes mellitus. She was referred to our hospital for effort angina pectoris (CCS II). The coronary angiography revealed a severely calcified stenosis in the middle of LAD.

A 6-Fr SPB3.5 guide catheter was inserted into the left coronary artery via the left radial artery. We advanced a conventional 0.014 inch guide wire beyond the lesion, and attempted to advance a small semi-compliant balloon catheter at first. However, the balloon catheter could not pass the lesion. Therefore, we decided to perform rotational atherectomy (RA). Fortunately a Caravel MC could pass the lesion, and we exchanged the conventional guide wire for a rotawire floppy. We selected rotawire floppy because proximal LAD was meandering moderately and proximal part of the lesion was bending highly, and it was thought that the wire bias was not good. We advanced the 1.5mm burr to the lesion at first, but the 1.5mm burr could not pass the lesion even after 3 sessions. We exchanged the 1.5mm burr for a 1.25mm burr, but the 1.25mm burr also could not pass the lesion even after 5 sessions. Unfortunately, after that, slow flow phenomenon occurred and she complained of chest pain. To overcome this situation, we dilated the lesion with a low profile balloon catheter by using a guide extension catheter. Then we planned to perform RA again. However, as a new problem, coronary angiography showed severe dissection in proximal LAD. We considered that RA might further propagate these or even cause a perforation. Therefore, we had to somehow dilate the lesion with a balloon. If failed to dilate the lesion with a balloon, we considered RA again in a situation where the dissection site was covered by a guide extension catheter. As a result, the lesion was successfully dilated by some balloons. Following balloon dilatation, we deployed three ZESs and achieved TIMI 3 grade flow.