1059

PCI for STEMI Due to a Heavily Calcified Ostial Lesion of the Right Coronary Artery

Shoya Ono1, Takushi Sugiyama1, Satoshi Mizuguchi1, Keijiro Kitahara1, Yasuhiro Maejima1, Takanori Yasu1

[1]Cardiology, Dokkyo Medical University Nikko Medical Center, Japan

Case Presentation:

A 72-year-old woman was transferred to our hospital after suddenly developing dizziness and paralysis at home. On arrival she was bradycardic and rapidly deteriorated into pulseless electrical activity (PEA). Advanced cardiac life support (ACLS) was initiated immediately, achieving return of spontaneous circulation (ROSC), but she subsequently cycled several times between PEA and ROSC.

After one ROSC episode, electrocardiography revealed ST-segment elevation in the inferior leads, indicating an ST-elevation myocardial infarction (STEMI) complicated by cardiogenic shock. Emergent coronary angiography was therefore scheduled, and veno-arterial extracorporeal membrane oxygenation (VA-ECMO) together with an intra-aortic balloon pump (IABP) were instituted for mechanical circulatory support (MCS).

Angiography demonstrated a heavily calcified 90 % ostial stenosis of the right coronary artery (RCA, segment #1) and a 75 % mid-RCA stenosis. The RCA lesion was identified as the culprit, and primary percutaneous coronary intervention (PCI) was undertaken. Intravascular ultrasound (IVUS) crossed the ostium but was arrested by distal calcification. Owing to dense, eccentric calcification along the lesser curvature of the ostium, we performed debulking with rotational atherectomy (RotaPro, 1.5 mm burr), then upsized to a 2.0 mm burr once IVUS confirmed initial passage.

After adequate lumen enlargement had been verified, we elected to avoid stent implantation because of the high restenosis risk at the ostium. The lesion was predilated with a cutting balloon and treated with a drug-coated balloon (DCB).

Conclusion:

Under MCS, we successfully treated an inferior STEMI caused by a severely calcified RCA ostial lesion using rotational atherectomy followed by DCB angioplasty without stent deployment. This case underscores the importance of advanced debulking techniques and timely MCS in unstable patients with heavily calcified coronary lesions.