

## Distal embolization of calcified atherosclerotic plaque fragment resulting in “balloon uncrossable lesion” during elective percutaneous coronary intervention

Filip Grulović<sup>1</sup>, Tomislav Letilović, MD, PhD<sup>1, 2</sup>

1 School of Medicine, University of Zagreb, Zagreb, Croatia

2 Department of Cardiology, Division for Interventional Cardiology, University Hospital Merkur, Zagreb, Croatia

### Keywords:

balloon uncrossable lesion, embolization, percutaneous coronary intervention, rotational atherectomy

### Background:

Distal embolization is a distal filling defect in one of the peripheral coronary artery branches of the infarct-related vessel, distal to the site of angioplasty. It can lead to a substantial obstruction in coronary circulation, whether it occurs spontaneously or during a percutaneous coronary intervention. It may manifest with specific clinical symptoms and noticeable changes in electrocardiographic readings.

### Case presentation:

A 66-year-old female with risk factors for coronary heart disease (arterial hypertension, diabetes and obesity) was admitted to the hospital for a planned coronary angiography due to an asymptomatic episode of nonsustained ventricular tachycardia. The coronary angiogram revealed no significant blockages in the left coronary artery, a partially calcified blockage of the right artery near its origin, and a narrowed area at its junction point. A percutaneous coronary intervention was performed. After using non-compliant balloons for several dilations, a drug-eluting stent at the beginning of the right coronary artery was successfully implanted. At the end of the procedure, a newly formed and restricted blockage was observed, significantly reducing the artery's diameter at the junction point without decreasing the blood flow or showing any clinical or electrocardiographic signs of ischemia. After several unsuccessful attempts to pass through this blockage using small balloons, a rotational atherectomy was performed several days later. A successful percutaneous coronary intervention with stent implantation was achieved with a favorable angiographic result. In the one-year post-procedure follow-up, an excellent outcome was observed in the treated segment at the crux of the right coronary artery during coronary angiography.

### Conclusion:

Rotational atherectomy was found to be a crucial factor in enabling the successful performance of a percutaneous coronary intervention, including stent implantation, which resulted in an excellent angiographic outcome.