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Rare Complication of Coronary Guidewire Transection During Rotational Atherectomy Via Transradial Access in the Percutaneous Treatment of Chronic Coronary Total Occlusion

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Chronic total coronary occlusion remains one of the limitations of percutaneous transluminal coronary angioplasty, and few therapeutic devices are specifically designed to address this problem. Despite advances in device technology, the management of resistant, calcific lesions remains one of the greatest challenges in successful chronic total coronary occlusion intervention. Established techniques to modify calcific lesions include the use of high-pressure non-compliant balloon dilation, cutting-ballos, anchor balloons, torus catheter and high speed rotational atherectomy. Rotational atherectomy facilitates percutaneous coronary intervention for chronic total coronary occlusion with severe calcification. Transradial intervention of chronic total coronary occlusion is increasing in frequency and is associated with lower major vascular access site complications. However, the small size of the radial artery is a major limitation of this technique, especially for rotational atherectomy. Transection of the coronary guidewire during rotational atherectomy is a very rare complication. This complication was seen in the treatment of chronic occlusions, which are therefore not risk-free procedures. While uncommon, there are a number of well-described complications including perforation, thrombosis and arrhythmia. Here we report a distal transection of the guiding wire during rotational atherectomy via transradial access in the percutaneous treatment of chronic coronary total occlusion. The procedure was ended after a simplified stenting technique. After confirming the absence of flow disturbance or any other complications associated with rotational atherectomy, the strategies and management were deemed successful. The patient recovered well and discharged the following days. When seen again in August 2014, the patient recovered uneventfully. Causative factors are described and suggestions are proposed to help avoid this problem.

Impact of Metabolic Syndrome and Obesity on Clinical Outcomes After Primary Percutaneous Coronary Intervention for ST-Segment Elevation Myocardial Infarction

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Background: The correlation between obesity and metabolic syndrome (MetS) remains unclear. This study aims to investigate impact of obesity phenotype on clinical outcomes with ST-segment elevation myocardial infarction (STEMI).

Methods: We analyzed in-hospital mortality and major adverse cardiac events (MACE) of 2,606 obese patients who underwent primary percutaneous coronary intervention (PCI) in the Korea Acute Myocardial Infarction Registry from November 2005 to October 2010. Patients were divided into two groups: unhealthy (any of the Mets components) obesity (BMI ≥ 25 kg/m²) and healthy (none of the Mets components) obesity.

Results: The unhealthy obesity group was composed of 703 patients (27%) and healthy obesity group 1,903 patients (73%). Unhealthy obesity was more frequent in female (26.9% vs. 10.1%, P<0.001) and multi-vessel disease (53.1% vs. 47.6%, P=0.012). There were no significant differences in other baseline characteristics, angiographic and procedural findings, and prescribed medications between two groups. The overall incidence of complications after PCI (13.1% vs. 10.7%, P=0.097) and in-hospital mortality (1.9% vs. 1.6%, P=0.0521) were similar in unhealthy obesity group compared with healthy obesity group. By the multivariate Cox regression analyses, the