

In-stent restenosis of a bare-metal stent in a patient with Hemophilia A

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Background: Patients with hemophilia have a higher risk of bleeding but still need effective dual anti-platelet therapy (DAPT) after percutaneous coronary intervention (PCI).

Case: A 55-year-old male with history of tobacco use and Hemophilia A (baseline 8-10% factor VIII activity) presented with chest pain and dyspnea on exertion for 2 months. An electrocardiogram (ECG) showed anterolateral T-wave inversions and troponins were negative. Nuclear stress test demonstrated ischemia in the mid-apical anterior segments, anteroseptal segments, and the true apex. He received factor VIII prior to coronary angiography (CA), which showed 99% occlusion of the middle left anterior descending artery (m-LAD). He underwent PCI with a bare-metal stent (BMS) without any complications. The patient was discharged on DAPT with aspirin and clopidogrel. Three months later, clopidogrel but not aspirin, was discontinued due to superficial bleeding. Fourteen months after PCI, he presented with chest pain and new T-wave inversions on ECG in the inferior leads. Outside hospital records from four months prior showed nuclear stress results demonstrating anteroseptal ischemia. After receiving factor VIII, he underwent CA, which showed 99% in-stent re-stenosis of the BMS.

Decision-making: Successful PCI was performed with a second-generation zotarolimus drug-eluting stent (DES) indicated for patients at high risk for bleeding. The patient was discharged with aspirin and clopidogrel. After 10 months, the patient reported continued absence of angina and improvement in exercise tolerance.

Conclusion: Given the higher risk of bleeding in patients with hemophilia, BMS with shorter DAPT regimens have historically been preferred for patients with hemophilia. DES were only used in special circumstances in patients with symptomatic restenosis and those considered high risk for restenosis. However, with the advent of contemporary DES shown to be superior to BMS in high bleed-risk patients, DES may provide more benefits than BMS in patients with hemophilia.