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Percutaneous Coronary Intervention for Acute Coronary Syndrome in a 44-Year-Old Man With Hemophilia A

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A 44-year-old man with a history of diabetes mellitus, hypertension, and hemophilia A presented at our institution with acute coronary syndrome (ACS). A coronary computed tomographic angiogram showed severe stenosis of the left anterior descending coronary artery (LAD). Laboratory test results indicated a low factor VIII level (3%; 0.03 IU/mL). A complete blood count and blood chemistry values were normal. The patient was given aspirin (a 300-mg loading dose and then 100 mg/d), clopidogrel (a 600-mg loading dose and then 75 mg/d), and factor VIII (5,500 IU). The next day, coronary angiography was performed through a radial approach. The coronary angiogram revealed severe stenosis of the proximal-to-mid LAD involving moderate size-2 diagonal branches (Fig. 1). The patient was given heparin intravenously to maintain an activated clotting time of 250 to 300 seconds before undergoing percutaneous coronary intervention (PCI) of the LAD and diagonal branches. A provisional stenting technique was used in the LAD. Next, the kissing balloon technique was used in the LAD and diagonal branch, along with the proximal optimization technique (Fig. 2). During radial access, hemostasis was

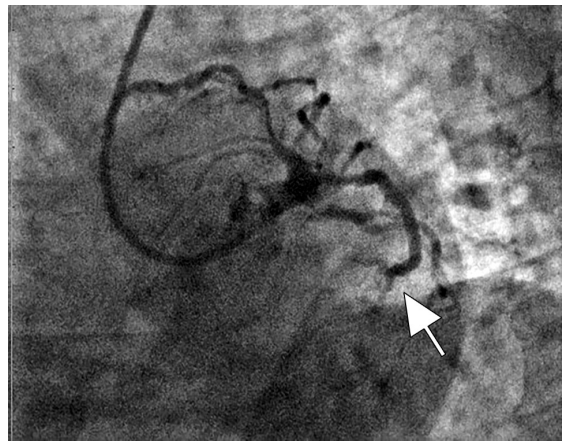

Fig. 1 *Baseline coronary angiogram of the left coronary artery shows severe stenosis of the left anterior descending coronary artery involving 2 diagonal branches (arrow).*

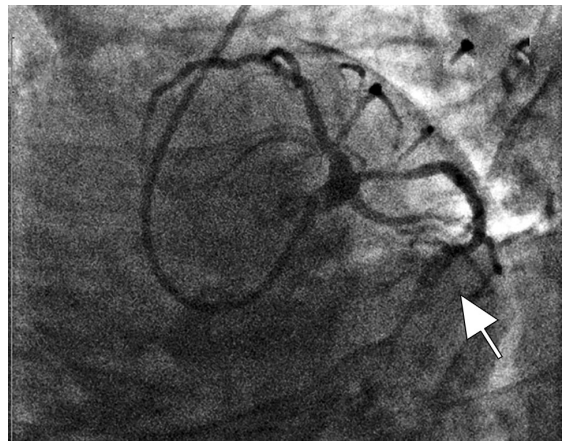

Fig. 2 *Coronary angiogram obtained after percutaneous coronary intervention shows a well-deployed stent in the left anterior descending coronary artery and patent diagonal branches (arrow).*

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achieved by compression. The patient's postprocedural course was uneventful. He was given factor VIII (2,750 IU every 12 hr) for 3 days and was continued on clopidogrel (75 mg/d) for 3 months and aspirin indefinitely (100 mg/d). At the 16-month follow-up visit, the patient was fully functional with no angina or bleeding.

Comment

Managing the care of patients with hemophilia who present with ACS is challenging. Therefore, we considered several essential factors to achieve the best short- and long-term outcomes in our patient with this combination of conditions. First, revascularization with either surgery or PCI is vital for the care of patients who present with ACS. To lower the risk of bleeding complications without compromising the outcome in our patient with single-vessel coronary artery disease, we proceeded with PCI rather than surgery. Second, to lower the risk of bleeding, we used the radial approach instead of the femoral approach.[1] Third, in the absence of evidence-based guidelines, we corrected the patient's factor VIII deficiency with use of a moderate regimen of supplementation meant to prevent high factor levels that can lead to catastrophic consequences of stent thrombosis or thrombotic occlusion.[2] Fourth, we considered that patients with hemophilia have a lifelong high risk of bleeding, and that the choice of stent should balance efficacy with a short duration of dual-antiplatelet therapy. Newer-generation drug-coated stents afford this balance without compromising clinical outcomes.

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