

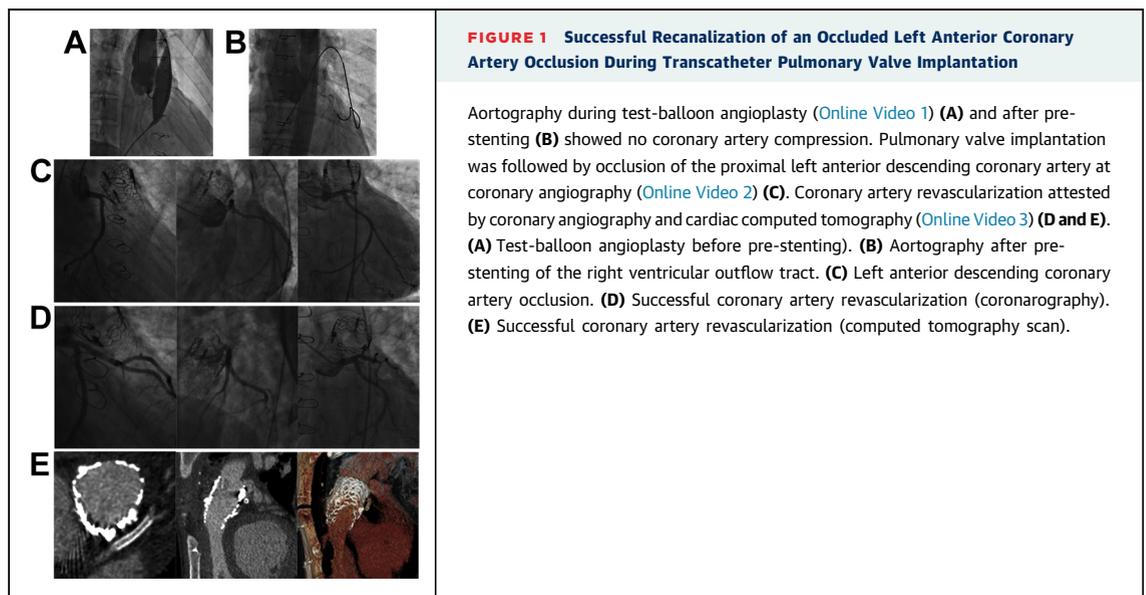
Left Anterior Descending Coronary Artery Occlusion During Transcatheter Pulmonary Valve Implantation

Successful Rescue Percutaneous Revascularization

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A 34-year-old woman was referred for transcatheter pulmonary valve implantation. She had been exposed to radiotherapy for Hodgkin's disease and underwent a Ross procedure 16 years before for post-endocarditis aortic regurgitation. Test-balloon angioplasty with a 22 × 20-mm Atlas balloon (Bard Peripheral Vascular, Tempe, Arizona) inflated to 14 atm, showed no coronary compression (**Figure 1A**, [Online Video 1](#)). Pre-stenting of the right ventricular outflow tract with a 36-mm Intrastent LD-Max (EV3, Plymouth, Minnesota) mounted on a 22 × 45-mm BIB balloon-in-balloon catheter (Numed, Hopkinton, New York) was uneventful, and a

second aortography showed no coronary compression (**Figure 1B**). A 23-mm Edwards SAPIEN pulmonic valve (Edwards Lifesciences, Irvine, California) was implanted, followed by intractable ventricular fibrillation that was due to left anterior descending coronary artery occlusion (**Figure 1C**, [Online Video 2](#)). Extrinsic compression was attributed to a mediastinal tissue block displacement during valve implantation. Under chest compressions, rescue percutaneous coronary revascularization was performed (**Figures 1D and 1E**, [Online Video 3](#)) with implantation of a bare-metal stent in the proximal left anterior descending artery. After 2 years of



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Manuscript received January 24, 2014; revised manuscript received February 18, 2014, accepted February 26, 2014.

follow-up, the patient is alive, and her coronary angiography is normal. Coronary artery compression may be observed in 5% of patients during test-balloon angioplasty (1). This complication is associated with abnormal coronary anatomy, especially in patients with tetralogy of Fallot or transposition of the great arteries (1). According to our exceptional case, caution should also be applied in patients with a radiated chest, even with

normal coronary anatomy and normal test-balloon angioplasty.

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KEY WORDS cardiac arrest, cardiac catheterization, myocardial infarction, Ross procedure, transcatheter pulmonary valve implantation

 **APPENDIX** For supplemental videos, please see the online version of this article.