

1021 **Successful Retrieval of an Undeatable Balloon by Rupturing It Using a Modified ST01 Catheter During Stent Post-dilatation**

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Balloon deflation failure is a well-recognized but extremely rare complication during percutaneous coronary intervention (PCI). We report a case of successful retrieval of an undeatable balloon by intentionally rupturing it using a modified ST01 catheter without causing coronary injury. A man in his 50s was admitted for elective PCI of a chronic total occlusion in the left anterior descending artery following PCI for acute inferior myocardial infarction. After successful wire crossing, a 2.5 × 38 mm Synergy XD stent was implanted in the mid-LAD and a 3.5 × 28 mm Synergy MEGATRON stent in the proximal LAD. Intravascular ultrasound revealed underexpansion of the mid-LAD stent, and post-dilatation with a 3.0 × 12 mm Hiryu Plus balloon was planned. However, the balloon failed to cross the lesion and was inflated to approximately 4 atm in the proximal segment to improve deliverability, after which balloon deflation failure occurred. Coronary angiography demonstrated preserved distal flow, and the patient remained asymptomatic without electrocardiographic changes, allowing an attempt at percutaneous retrieval. Repeated attempts at balloon deflation were unsuccessful, and gentle traction resulted only in deep engagement of the guiding catheter. Intentional rupture by high-pressure inflation was considered to carry a substantial risk of coronary injury. Therefore, the balloon shaft was cut, and a modified Heart Rail 5-Fr ST01 catheter with its tip removed was advanced as a child catheter and pressed against the balloon surface, successfully causing balloon rupture and enabling safe retrieval. Final angiography confirmed the absence of coronary injury, and the procedure was completed successfully. This technique may represent a useful bailout strategy for managing balloon deflation failure during PCI.