

Balloon-assisted tracking for challenging transradial percutaneous coronary intervention

A 74-year-old woman with a history of diabetes mellitus and hypertension was admitted to our hospital due to non-ST elevation myocardial infarction. Coronary angiography was performed uneventfully using JL 3.5 and AR1 5 Fr angiographic catheters (Boston Scientific, USA) through radial access. The coronary angiogram showed one vessel disease with an 80% stenosis at the proximal part of the left anterior descending artery. We proceeded with ad hoc percutaneous coronary intervention (PCI), but the 6 F guiding catheter could not be advanced over the wire at the elbow level due to severe tortuosity, causing iatrogenic radial artery dissection (Video 1). The balloon-assisted tracking technique was employed to continue the procedure using the radial approach. The 0.038' guidewire was retrieved, and a 0.014' coronary angioplasty guidewire (Cougar, Medtronic, USA) was advanced through the guiding catheter at the level of the subclavian artery. Then, a 2.0×15 mm balloon (Sprider, Medtronic, USA) was inflated to 8 atm at the tip of the guiding catheter (half inside and half prolapsing outside the tip of the guiding catheter) (Video 2), and subsequently, the catheter was easily advanced through the dissected artery (Video 3). PCI was successfully performed with a 3.0×18 mm Resolute Integrity stent (Medtronic, USA) implantation. Radial artery angiography during catheter retrieval showed that the radial artery dissection was successfully sealed (Video 4).

Balloon-assisted tracking was first described by Patel and colleagues, and it is a useful method to overcome tortuosity problems during the transradial approach. The size of the balloon that must be used for this trick depends on the size of the guiding catheter (2.0 mm for 6 F, 2.5 mm for 7 F, and 3 mm for 8 F catheter, respectively), and it should be inflated in nominal pressure.

Video 1. Radial artery dissection due to severe radial artery tortuosity and “razor effect” in advancing the 6 F guiding catheter at the elbow level.

Video 2. A 2.0×15 mm balloon is inflated to 8 atm at the tip of the guiding catheter.

Video 3. With the balloon inflated at the tip, the guide catheter is easily advanced through the dissected artery.

Video 4. Radial artery angiography after the completion of angioplasty and retrieval of the catheter.

Maria Agelaki, Michael Koutouzis
2nd Department of Cardiology, Red Cross General Hospital; Athens-Greece

Address for Correspondence: Maria Agelaki, MD, PhD.
Second Department of Cardiology
Red Cross General Hospital
1 Erythrou Stavrou str, 11526, Athens-Greece
Phone: +00306974805477

E-mail: magelaki@gmail.com

©Copyright 2017 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com

DOI:10.14744/AnatolJCardiol.2017.7567