

## Editorial Comment

### Eureka! By Just Turning a Knob I Can Turn a Procedural Fiasco into a Success

**Antonio L. Bartorelli, MD, FESC, FACC**  
The Centro Cardiologico Monzino,  
Institute of Cardiology,  
University of Milan, Milan, Italy

The safety and procedural success of percutaneous coronary interventions (PCI) has significantly increased in parallel with the restless progress made in guidewire, balloon and stent technology. Nevertheless, challenging anatomical scenarios may make manipulation of the guidewire, the primary recanalization device, and target vessel or lesion access very difficult. Routledge et al. remind us that, in some patients, it may be impossible to obtain proper intraluminal advancement of the guidewire through lesions located in native vessels beyond angulated distal saphenous vein graft (SVG) anastomoses [1].

Inability to cross complex lesions with “workhorse” equipment may be tackled with a variety of manipulation techniques by using different specialty guidewires. This usually translates into several time-consuming attempts that may significantly increase radiation exposure, contrast volume, and procedural cost. Moreover, when all these efforts are unsuccessful in obtaining intraluminal wiring of the vessel, the only remaining revascularization option is surgery. This may increase morbidity and mortality risk, particularly in patients with prior coronary bypass.

In this report, the French authors describe a very small clinical experience with the use of the Venture™ Wire Control (VWC) catheter (St. Jude Medical, Minnetonka, MN) after the failure of standard guidewires in native coronary artery lesions located beyond SVG anastomoses. The main reasons for failure in their three cases were unfavorable angulations beyond the point of graft insertion, severe tortuosity of the native vessel, and insufficient guidewire support. The VWC catheter features enabled the interventionalists to overcome these problems and to treat such lesions successfully.

By rotating the control knob, located on the proximal handle, the radiopaque soft tip of this novel device can be deflected to orientate and direct the guidewire to up to 90°. This feature, associated with rotation of the entire catheter shaft, allows steering the guidewire tip in all planes. This innovative mechanism potentiates guidewire deliverability

through very difficult lesion and vessel morphology subsets, simultaneously providing excellent back-up support and increased directional pushability.

Despite the fact that minimal literature is available [2–4], it would seem that the VWC catheter has a role in challenging coronary anatomy after failure with conventional guidewires, particularly when several factors preclude vessel access and lesion crossing. In our clinical experience, extreme angulations of side-branch ostia and bifurcations, stent jailed branches, chronic total occlusions, and lesions beyond coronary aneurysms were successfully negotiated with the use of this device, after prolonged attempts with standard guidewires and techniques had failed. One limitation we observed was the difficulty in VWC catheter tip deflection and shaft rotation in small diameter vessels. Although not reported in this nor in previous reports, potential for vessel wall injury during catheter manipulation may also be a concern, particularly if “aggressive wires” in terms of tip stiffness and hydrophilic coating are used.

In conclusion, the VWC catheter is an interesting “niche” device. In certain anatomical subsets, it may give the interventionalist the pleasant vision and the gratifying feeling of a guidewire that finally advances through a very complex coronary lesion and into the distal vessel, after conventional strategies have failed, despite struggling attempts, turning a frustrating procedural failure into a success.

#### REFERENCES

1. Routledge H, Lefèvre T, Ohanessian A, Louvard Y, Dumas P, Morice MC. Use of a deflectable tip catheter to facilitate complex interventions beyond insertion of coronary bypass grafts: 3 case reports. *Catheter Cardiovasc Interv* 2007;862–866.
2. McClure SJ, Wahr DW, Webb JG. Venture wire control catheter. *Catheter Cardiovasc Interv* 2005;66:346–350.
3. McNulty E, Cohen J, Chou T, Shunk K. A “grapple hook” technique using deflectable tip catheter to facilitate complex proximal circumflex interventions. *Catheter Cardiovasc Interv* 2006:46–48.
4. Naidu S, Wong SC. Novel intracoronary steerable support catheter for complex coronary intervention. *J Inv Cardiol* 2006;18:80–81.

Correspondence to: Antonio L. Bartorelli, MD, Centro Cardiologico “Monzino” IRCCS, Via Parea 4, 20138 Milan, Italy. E-mail: antonio.bartorelli@ccfm.it

Received 25 September 2007; Revision accepted 26 September 2007

DOI 10.1002/ccd.21424

Published online 12 November 2007 in Wiley InterScience (www.interscience.wiley.com).