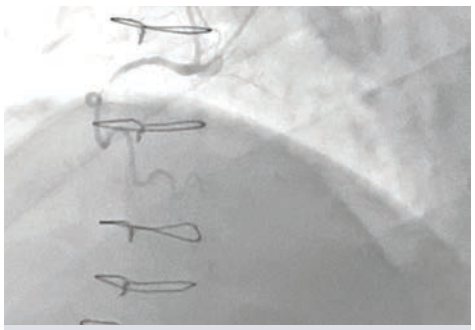
Cath Lab Digest

A product, news & clinical update for the cardiac catheterization laboratory specialist



CASE REPORT

A Useful Addition to Your Complex PCI Toolbox

Leah M. Raj, MD, FACC, FSCAI

TAKERU PTCA Balloon Dilatation Catheters (Terumo Interventional Systems) have proven to be a useful tool in complex coronary interventions. Due to its low profile and pushability, the TAKERU balloon catheter can be used in multiple scenarios, including tortuous and uncrossable lesions. In this report, we summarize a case utilizing the low-profile TAKERU balloon catheter.

Clinical Case

A 65-year-old gentleman with a history of coronary artery disease treated with coronary artery bypass graft surgery and percutaneous coronary intervention (PCI) to the proximal left anterior descending artery presented with Canadian Cardiovascular Society class III angina despite multiple antianginals (carvedilol 12.5 mg BID, ranolazine 1000 mg BID, and isosorbide mononitrate 60 mg daily).

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In This Issue

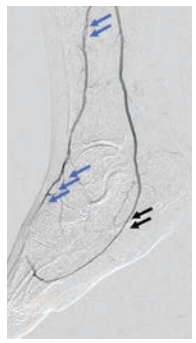
CUTTING-EDGE TECHNOLOGY

The MagicTouch PTA Sirolimus-Coated Balloon for the Inhibition of Neointimal Hyperplasia in Lower-Extremity Peripheral Arterial Disease

CLD talks with Edward Choke, MBBS, PhD, FRCS.

What are the current challenges in lower-extremity peripheral arterial disease patients?

Due to the increasing incidence of diabetes, we are now seeing more of the severest forms of lower-extremity occlusive peripheral arterial disease (PAD). These occur in the distal arteries located below the knee (BTK) and are often long chronic total occlusions in small-caliber vessels. In its severest form, it leads to chronic limb-threatening ischemia, in which patients develop gangrene or ulcers of the lower extremity, and ultimately loss of limb or life if left untreated.



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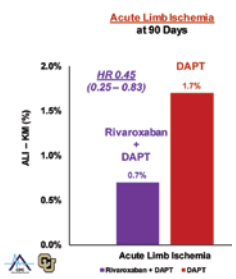
CLINICAL TRIAL UPDATE

Rivaroxaban After Lower-Extremity Revascularization: The VOYAGER PAD Trial

CLD talks with Marc P. Bonaca, MD, MPH.

The phase 3 VOYAGER PAD trial demonstrated the benefit of rivaroxaban (Xarelto, Janssen Pharmaceutical Companies of Johnson & Johnson) (2.5 mg twice daily + aspirin 100 mg once daily) in reducing severe vascular events in peripheral artery disease patients after lower-extremity revascularization.[1]



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Other comorbidities included hypertension, hyperlipidemia, and diabetes, which were all appropriately treated. A cardiac positron emission tomography scan revealed a moderate-sized inferior wall reversible defect and normal left ventricular function. Coronary angiography revealed an occluded vein graft to the right coronary artery (RCA), as well as an occlusion of the RCA. Given the patient's significant symptoms and ischemia, we proceeded with RCA PCI.

Procedure

Dual access was achieved with a 7 French Amplatz Left (AL)-1 guide catheter and a 7 French Extra Backup (EBU) 3.75 guide catheter. Based on dual-injection angiography, the proximal cap was ambiguous due to a tortuous right ventricular (RV) marginal branch and the occlusion was long (>20 mm) (Figure 1). Therefore, we decided to attempt retrograde techniques first. After administering heparin to a goal activated clotting time (ACT) of >350, a workhorse wire was advanced through a low-profile microcatheter into the first septal perforator. The wire was exchanged for a specialty wire that was used to cross septal collaterals. We had difficulty advancing the microcatheter into the septal perforator, as it was jailed with a previously placed stent (Figure 2). Here, we used a 1.5 mm x 20 mm TAKERU balloon to dilate the stent struts. We were able to advance the microcatheter into the septal perforator and into the distal vessel (Figure 3). The connection was made with a reverse controlled antegrade and retrograde tracking (R-CART) technique (Figure 4). Overlapping drug-eluting stents were placed and aggressively post dilated. Final angiography demonstrated no residual stenosis, dissection, or perforation (Figure 5). The patient was placed on dual antiplatelet therapy for six months.

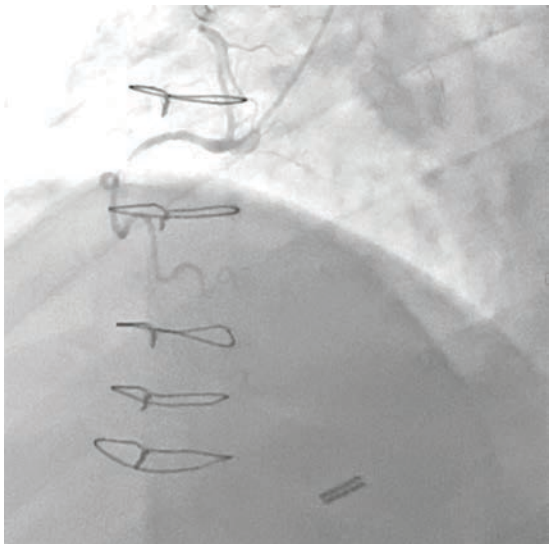

Figure 1. Right coronary artery with ambiguous cap due to tortuous right ventricular marginal branch.

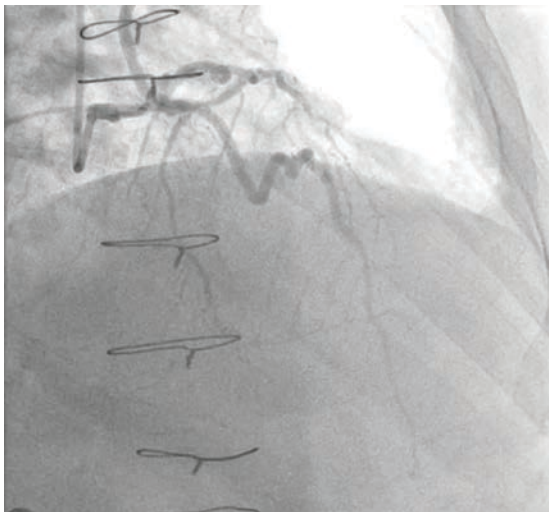

Figure 2. Left coronary artery, patent stent in the proximal left anterior descending artery with multiple jailed septal perforators collateralizing the distal right coronary artery.

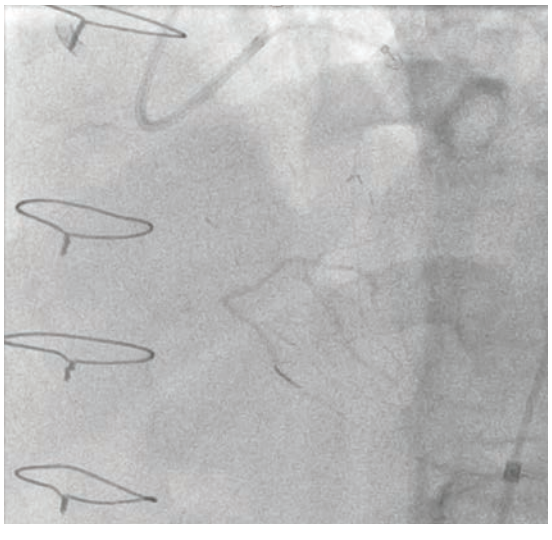

Figure 3. Microcatheter traversing a septal perforator into the posterior descending artery. A microcatheter tip injection demonstrates the distal right coronary artery.

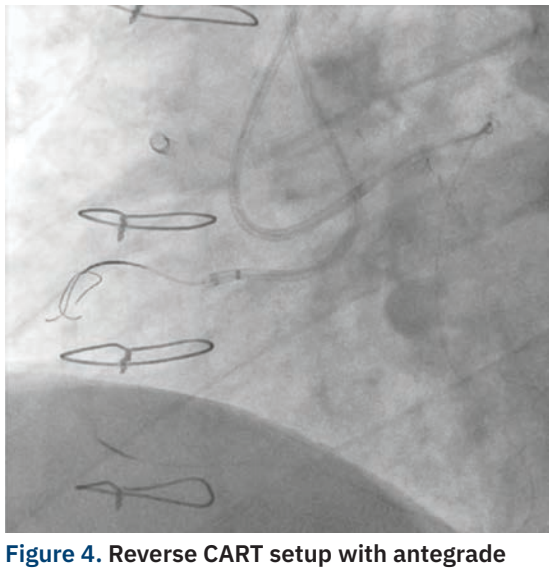

Figure 4. Reverse CART setup with antegrade and retrograde knuckles within the architecture of the right coronary artery.

Conclusion

TAKERU PTCA Balloon Dilatation Catheters are hydrophilic, and offer a low-entry profile that allows greater pushability and an increased ability to cross complex anatomy common in complex PCIs. ■

Products Used

- Medtronic AL-1 guide catheter
- Medtronic EBU 3.75 guide catheter
- Teleflex 7 French TrapLiner
- Teleflex Turnpike LP 150
- Terumo Runthrough Coronary Guidewire
- Asahi Sion black coronary guidewire
- Asahi Mongo guidewire
- Asahi Gaia Next 3
- Terumo 1.5 mm x 20 mm TAKERU Balloon Dilatation Catheter

This case is sponsored by Terumo Interventional Systems.

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Leah M. Raj, MD, FACC, FSCAI
Interventional Cardiology, Vanderbilt Heart and Vascular Institute; Assistant Professor, Department of Medicine, Vanderbilt University, Nashville, Tennessee

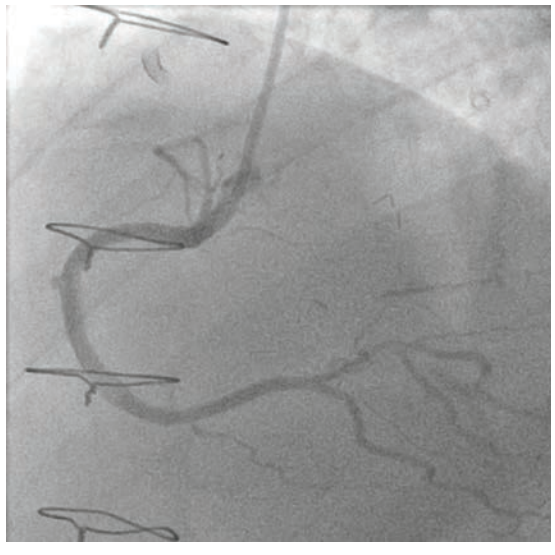

Figure 5. Final right coronary artery result.