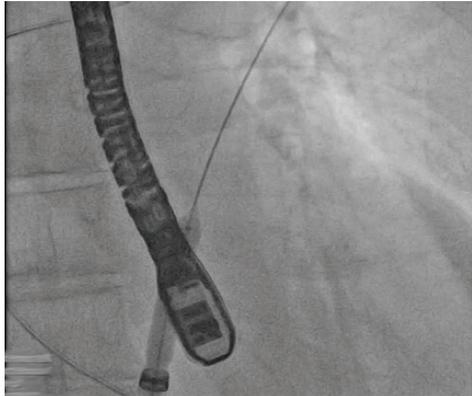


Cath Lab Digest

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



CASE REPORT

Transseptal Access Using Balloon-Assisted Tracking Technique

Ninad Nadkarni, MD; Fouad Khalil, MBCh; Naveen Rajpurohit, MD; Adam Stys, MD; Tomasz Stys, MD

Case Presentation

An 80-year-old female with a history of heart failure with reduced ejection fraction, hypertension, and chronic kidney disease presented with worsening dyspnea and fatigue for 6 months despite being on optimal guideline-directed medical therapy. An echocardiogram revealed an ejection fraction of 30%-35% and severe mitral valve regurgitation. A coronary angiogram revealed no significant obstructive coronary artery disease. After discussing different options with the patient, it was opted to proceed with mitral valve repair using MitraClip (Abbott Vascular).

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In This Issue

The Langston (Double Lumen Pigtail Catheter) is Back With Some Thoughts on the Hemodynamics of Aortic Stenosis

Morton J. Kern, MD

In our current era of transcatheter aortic valve replacement and other structural heart interventions, we in the cath lab should provide our colleagues and patients with the highest quality hemodynamic assessment of the aortic valve possible. The indications for invasive assessment of aortic stenosis are clear, as are the best practices for measurements. The Langston dual lumen catheter (Teleflex) has returned to our labs so that we can provide an accurate, low-cost data set with relative ease.

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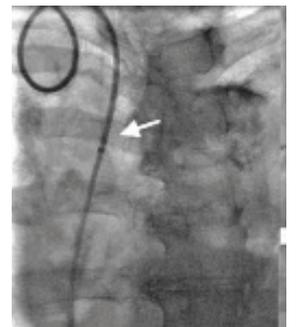
CASE SERIES

Having the Right Equipment for Solving Complex Radial to Peripheral Procedures

Sharan Rufus, MD, FSCAI

The R2P™ DESTINATION SLENDER™ Guiding Sheath is a dedicated radial sheath developed by Terumo. We present a series of challenging radial cases with the use of the R2P™ DESTINATION SLENDER™ Guiding Sheath.

The R2P™ DESTINATION SLENDER™ Guiding Sheath uses the Terumo slender technology and reduces the outer diameter while maintaining an equivalent larger inner diameter. These sheaths have a full hydrophilic coating designed to minimize vessel spasm at access site and increase tracking ability. Device lengths are designed to support coronary, carotid, visceral, and peripheral procedures.



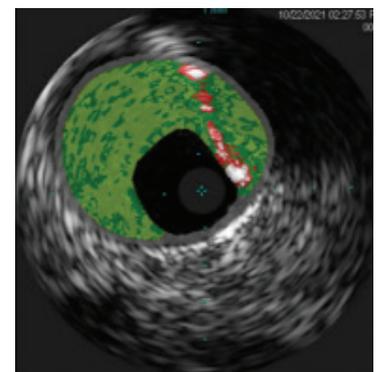
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CASE REPORT

Multivessel Complex Procedure With a Single Treatment Solution

Charles J. Gbur Jr, MD, FACC, FSCAI

This case is a high risk, complex, multivessel intervention, performed at McLaren St. Luke's Hospital in Maumee, Ohio. In complex cases such as this one, there are three overarching considerations that must be evaluated and supported with clinical data to achieve best outcomes in a real-world setting: patient safety, patient outcomes, and financial viability. These three elements are continuously being assessed and evaluated to support a healthcare system's cardiology quality matrix. The highly favorable patient clinical outcome in an individual with complex calcified multivessel coronary disease and the subsequent intervention will be reviewed in light of these quality guidelines.



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Transseptal Access Using Balloon-Assisted Tracking Technique

Ninad Nadkarni, MD; Fouad Khalil, MBBCh; Naveen Rajpurohit, MD; Adam Stys, MD; Tomasz Stys, MD

Crossing the interatrial septum was challenging. Although we were able to cross the interatrial septum with a transseptal needle, advancing the sheath across the fossa ovalis was difficult. Several maneuvers such as rotating and redirecting the sheath were not successful. Pre-dilation of the septum with 5 mm x 40 mm balloon did not allow for insertion of the MitraClip guide across the interatrial septum. At this point, we elected to use the balloon-assisted tracking (BAT) technique. Using a 7 mm x 40 mm balloon that was inflated to 10 atmospheres (atm) at the tip of the guiding catheter, we were able to advance the sheath

through interatrial septum (Figures/Videos 1-3; videos available with the article on CathLabDigest.com). Subsequently, a G4 XTW MitraClip was successfully deployed in the central position. A post procedure transesophageal echocardiogram showed mild mitral regurgitation.

Discussion

Transseptal access is essential for many procedures including transcatheter mitral valve interventions, pulmonary vein isolation, left atrial appendage closure, and percutaneous left ventricular assist devices. However, there are many scenarios that one might face that can make transseptal access challenging. These include but are not limited to difficult engagement of the fossa ovalis, needle advancement, and sheath and guide advancement.¹ In our case, MitraClip guide advancement was challenging. We were able to overcome this using the BAT or the 'inchworming' technique. This technique was originally described to

overcome tortuosity, or a small-caliber or spastic radial artery during a transradial approach.² We describe a new implication for the inchworming technique. The conical shape of the inflated balloon provides flexibility, minimizes trauma, and allows atraumatic transseptal access.

Conclusion

Balloon-assisted tracking offers a safe and effective approach to advancing a large sheath across the interatrial septum. ■

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2. Patel T, Shah S, Pancholy S. Balloon-assisted tracking of a guide catheter through difficult radial anatomy: a technical report. *Catheter Cardiovasc Interv.* 2013 Apr;81(5):E215-8. doi: 10.1002/ccd.24504

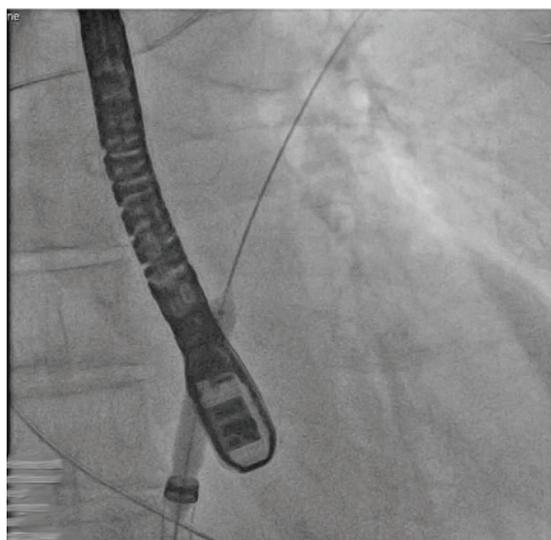
Transseptal access is essential for many procedures including transcatheter mitral valve interventions, pulmonary vein isolation, left atrial appendage closure, and percutaneous left ventricular assist devices.

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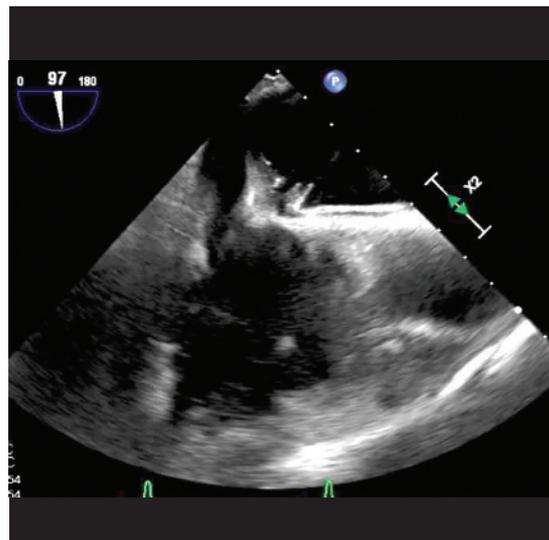
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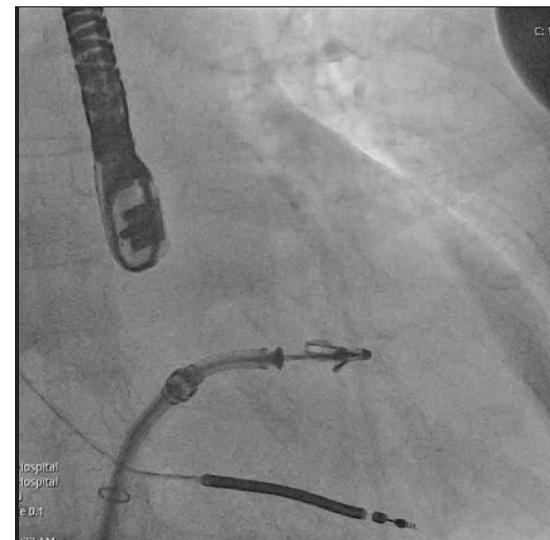
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Figure/Video 1. Advancement of the sheath through the interatrial septum using inflated balloon.



Figure/Video 2. Sheath entering through the interatrial septum.



Figure/Video 3. MitraClip (Abbott Vascular) prior to deployment.