

Mitral Technology & Lesion Assessment

The field of catheter-based mitral repair and replacement is heating up rapidly in the United States. MitraClip (Abbott Vascular) has been in commercial use, but is restricted to degenerative mitral regurgitation (MR) in poor candidates for conventional surgery while we await further evidence for use in patients with functional MR. The COAPT trial is in the later stages of enrollment and will be critical in defining this indication. Other alternatives for mitral repair are in use internationally but headed for United States trials. The field of percutaneous mitral replacement is in the earliest stages of development, fueled by more than a billion dollars of investments in the last year, and the tricuspid valve has been treated by some of these mitral technologies and a few dedicated approaches.

Mike Saji, MD, and D. Scott Lim, MD, begin our mitral technology coverage by providing updates on the COAPT trial and commercial use of the MitraClip in the United States. The COAPT trial is the first randomized controlled trial to compare the nonsurgical standard-of-care treatment to a transcatheter intervention to decrease MR.

Next, we have a discussion about the three devices for mitral valve annuloplasty that have received CE Mark approval for the treatment of secondary MR: Carillon (Cardiac Dimensions, Inc.), Mitralign (Mitralign, Inc.), and Cardioband (Valtech Cardio, Ltd.).

Ander Regueiro, MD, and Josep Rodés-Cabau, MD, provide an overview of the transcatheter valve replacement therapies for treating MR. Given that mitral valve anatomy is a major challenge, the development of transcatheter mitral valve replacement (TMVR), and experience with said technology, is still in its early phases.

Our focus on mitral technology continues with a discussion of transcatheter valve implantation for calcific mitral stenosis from Mayra Guerrero, MD, et al. Included in this article is an overview of the procedural results and 30-day outcomes from the TMVR in MAC Global Registry.

We conclude our primary coverage with an article by Francesco Giannini, MD, and Azeem Latib, MD, which looks ahead to the next frontier of percutaneous tricuspid

valve repair. Although the initial in-human experiences using percutaneous techniques demonstrated feasibility, they determine that prospective registries with more patients and longer follow-up are needed.

Our supplementary focus on lesion assessment begins with a look at optical coherence tomography (OCT) from Falak Shah, MD; Alexander Turin, MD; and John J. Lopez, MD. Their article reviews the basics of imaging with OCT, how OCT compares to intravascular ultrasound and fractional flow reserve (FFR), outcomes with pre-percutaneous coronary intervention (pre-PCI) OCT use, and a practical algorithm for PCI procedure planning with OCT.

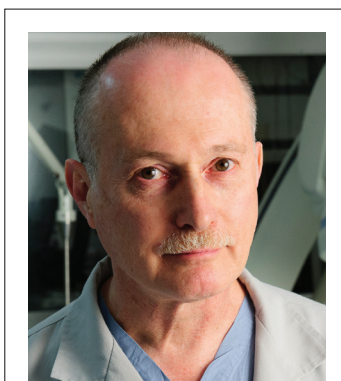
Morton J. Kern, MD, examines whether FFR of the left main coronary artery stenosis is reliable, as

understanding the technique and limitations of its applications are required for best results.

As part of our ongoing Today's Practice series, Ginger Biesbrock, PA-C, and Anne Beekman, RN, discuss the care team approach to delivering high-quality, cost-effective cardiovascular care. They conclude that a team-based approach is proving to be a viable and effective solution to growing challenges in an ever-changing health care industry.

Finally, we interviewed Ron Waksman, MD, about next-generation structural heart therapy, detection of vulnerable plaque for preventing cardiac events, and more.

We hope this issue meets our broader goal of synthesizing the vast interventional literature, to help you keep up with the impossible deluge of journals. Mitral intervention is particularly difficult to keep up with, and these reviews should capture the state of that field. ■



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