

Structural and Valvular Update

Structural heart disease intervention has been developing rapidly for several years, and the advances made in the field are challenging to keep up with. This issue of *Cardiac Interventions Today* will give you a snapshot of the state of the art of percutaneous mitral valve repair and aortic valve replacement, and patent foramen ovale closure, as well as adjuncts, such as three-dimensional imaging and transseptal puncture, that are central to the newer valve and shunt closure approaches.

A trio of articles focusing on catheter-based aortic valve replacement kick off our cover focus this issue. Eberhard Grube, MD, and Dinesh Nair, MD, provide an update on the current state of clinical use of the CoreValve percutaneous aortic valve. An article by Augusto Pichard, MD, and Lowell Satler, MD, relates the status of the Edwards Sapien percutaneous aortic valve. We follow-up with an article by S. Chris Malaisrie, MD, and Patrick M. McCarthy, MD, who summarize the current status of surgical aortic valve replacement and suggest benefits of the surgical transapical approach for aortic valve implantation.

Saibal Kar, MD, FACC, FAHA, FSCAI; Frederick St. Goar, MD, FACC, FSCAI; and myself relate our early experience with nonsurgical mitral valve leaflet repair with the MitraClip device, which is being evaluated as a therapeutic option for a wide spectrum of patients with mitral regurgitation.

Alec Vahanian, MD, discusses the device design improvements, proper patient selection issues, and careful technique needed for percutaneous coronary sinus annuloplasty to develop as a treatment option for mitral regurgitation.

A pair of articles serves to illuminate current uses of patent foramen ovale closure devices: Brian Whisenant, MD, gives an overview of PFO and migraine trials, and Hohai Van, MD, and Jonathan

Tobis, MD, review PFO closure-based, primary therapy treatment strategies guided by clinical data for patients presenting with cryptogenic stroke.

Next, Wes R. Pedersen, MD, and I overview a novel less-invasive, integrated approach to treating many patients with functional mitral regurgitation using the surgical Coapsys and percutaneous iCoapsys devices. The percutaneous approach is transpericardial, and this is the first therapy to treat both the valve and the left ventricle. T.R.D. Shaw MD, FRCP, FESC, reviews the role of transseptal puncture as increasingly important for structural interventions and details recent technical advances with this technique.

John D. Carroll, MD, explains why three-dimensional image guidance is important in structural cardiac

interventions and clarifies the advantages and limitations of the technology. We close our cover focus with an update of coronary occluder device technology and trials.

In this issue's Techniques article, Rajesh M. Dave, MD, FACC, FSCAI, describes the strategies and tools for successfully crossing coronary artery chronic total occlusions. David G. Rizik, MD, FACC, FSCAI, provides us with his Tips & Tricks for crossing and covering the carina of a bifurcation coronary artery lesion.

Our Interview With column features Frank T. Bunch, MD, who shares with us his experiences using early atherectomy devices, as well as his take on the coronary frontier and how coronary skills apply to the periphery.

I hope that you find this Structural and Valvular Update to be a useful addition to your practice and welcome any feedback you may have. ■



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