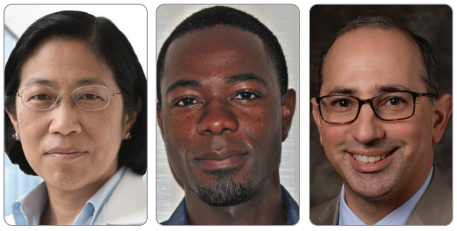
Assessing Tricuspid and Mitral Interventions



The prevalence of valvular heart disease has increased with increasing longevity and an aging population. Risk for surgical interventions also increases with age, and transcatheter solutions, pioneered for the aortic valve, have received intense interest for the treatment of mitral and tricuspid disease. The tricuspid valve, largely ignored in the past, has become a topic of intense interest as the classification of tricuspid regurgitation has become more standardized and the natural history of the disease better understood. Tricuspid valve pathophysiology is complex, involving not just the valve but the right atrium and right ventricle, as well as the pulmonary circulation and left heart. This multifaceted disease makes device choice and trial design more difficult.

We begin our tricuspid and mitral discussions with Yan Topilsky, MD, and Dr. Hahn as they describe the anatomy and physiology of the tricuspid valve apparatus and different types of tricuspid regurgitation. They provide a contemporary understanding of tricuspid regurgitation pathophysiology.

Next, Gorav Ailawadi, MD; Charles Davidson, MD; Maurizio Taramasso, MD; and Marta Sitges Carreño, MD, give an update on the rapidly evolving landscape of surgical and transcatheter techniques for the treatment of tricuspid valve disease.

Zachary K. Wegermann, MD, and Sreekanth Vemulapalli, MD, discuss challenges and opportunities in designing trials for transcatheter tricuspid valve interventions.

To date, the mitral valve has been explored more extensively than the tricuspid valve. We have gained proper, but still incomplete, knowledge about selection criteria for transcatheter interventions. Focusing on mitral regurgitation, these patients represent a very heterogeneous population for which anatomic and functional factors play a central role in procedural success and mid- to long-term clinical outcomes. A multidisciplinary appraisal remains key for this population, putting into perspective the patient information with the available guidelines, and sometimes, diverging trials. The technology is currently led by the edge-to-edge therapy, but several devices are under investigation for mitral regurgitation in order to ideally tailor the therapy to the patient. In our first mitral-themed article, Daniel Grinberg, MD; Xavier Armoiry, PharmD; and Jean-François Obadia, MD, review possible explanations for the different results between the MITRA-FR and COAPT trials.

Marcel Weber, MD; Johanna Vogelhuber, MD; Can Öztürk, MD; Sebastian Zimmer, MD; and Georg Nickenig, MD, then compare devices and methods for the treatment of mitral valve regurgitation and review their perspectives on transcatheter mitral therapy.

The advancements in structural interventions also pose the question of the optimal antithrombotic management for these complex patients. A number of trials have specifically addressed the topic on the use of antiplatelet and anticoagulant therapies in patients undergoing transcatheter aortic valve implantation.

We will explore pharmacologic considerations with Antonio Greco, MD, and Davide Capodanno, MD, as they discuss the ATLANTIS randomized trial. They provide insight on the role of oral anticoagulation as default antithrombotic strategy after transcatheter aortic valve implantation.

In this issue's Today's Practice article, Ginger Biesbrock, PA-C, writes on the total costs of care and how to understand the economics of your program.

Finally, we wrap up this issue with an interview with Mirvat Alasnag, MD, in which she discusses her experience as a woman in interventional cardiology, the benefits of mentorship, thoughts on treatment strategies and techniques, and more.

We hope this focused issue on tricuspid and mitral valve interventions will give our readers a better understanding of the pathophysiology of these complex valvular diseases, a review of current treatment options, as well as a glimpse into the future transcatheter options for therapy. ■

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