

## Degenerative Mitral Valve Disease: Introduction

Degenerative mitral valve disease, first characterized by such pioneers as John Barlow and Alain Carpentier, represents a spectrum of conditions that results in chordal elongation or rupture and/or mitral annular dilation, which leads to varying degrees of mitral valve regurgitation. Although benign in patients with minimal valve dysfunction, degenerative mitral valve disease is recognized as an important cause of cardiovascular morbidity and mortality in patients with significant mitral regurgitation. Mitral valve reconstructive techniques are applicable in all patients with degenerative mitral valve disease and are now well established to restore normal life expectancy in patients treated in a timely fashion before significant pathologic changes in ventricular function occur. Furthermore, mitral valve repair offers a distinct survival advantage compared with mitral valve replacement with either a mechanical or bioprosthetic heart valve, particularly in younger patients. Despite current guidelines and general consensus that the majority of patients with advanced degenerative mitral valve disease should be offered mitral valve reconstruction, it is sobering to note that in Western countries today, including the United States, mitral valve replacement for degenerative disease remains commonplace. Although advances in intraoperative and perioperative care mean very few patients die acutely from either surgical strategy (repair or replacement), in reality, current practice patterns continue to lead to unnecessarily decreased overall life expectancy in a majority of patients with degenerative mitral valve disease because of late intervention, inappropriate repair technique (resulting in residual or recurrent regurgitation), or use of valve replacement. Thus, it is imperative that all cardiovascular specialists rededicate themselves to becoming knowledgeable in all aspects of degenerative mitral valve disease surgical strategies, so that future patients will all enjoy the opportunity to receive guideline and state-of-the-art therapy.

In the first article of this edition of *Seminars in Thoracic and Cardiovascular Surgery*, Dr. Anyanwu and I review the distinguishing characteristics of Barlow's disease and fibroelastic deficiency, highlighting implications for specific surgical techniques as well as who should perform the operation on a particular patient. Dr. Schaff and colleagues then provide a comprehensive analysis of the seminal data from the Mayo Clinic and other institutions, which forms the foundation for much of the current guidelines as to when to offer surgical intervention in the setting of degenerative mitral valve disease. Drs. Filsoufi and Carpentier then offer a concise summary of the fundamental reconstructive techniques in the setting of degenerative mitral valve disease. Next, Dr. Mohr and colleagues offer a thorough review of their current approach to mitral valve reconstruction with Gore-Tex chord replacement in the setting of degenerative disease. Dr. David follows with a unique look at the recurrence of significant mitral valve regurgitation after mitral valve repair for degenerative disease, emphasizing that there is still much to learn in this field to optimize results. Dr. McCarthy summarizes important adjunct procedures in the setting of degenerative mitral valve disease including concomitant treatment of secondary tricuspid valve regurgitation and atrial fibrillation. Finally, Dr. Alfieri and colleagues provide their views on future directions in the treatment of degenerative mitral valve disease including lessons learned from their experience with surgical edge-to-edge repair and implications for percutaneous treatment strategies.

It is hoped that these timely reviews will result in increased knowledge with regard to the diagnosis and state-of-the-art treatment of patients with degenerative mitral valve disease.

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Guest Editor