

## Editorial

## The revolution in tricuspid regurgitation



Long described as the “forgotten” valve disease, tricuspid regurgitation (TR) has received remarkable recent scrutiny due to an amalgamation of high-risk features for afflicted patients. While the prevalence of TR is believed to be ~0.6%, the number of these patients may be considerably higher as their clinical identification is limited by vague symptoms (e.g., edema, fatigue) and the potential underestimation of severity with current imaging techniques. Regardless of the method of clinical identification, survival is markedly impaired, with some natural history studies describing a mortality rate of ~9% per year for those with severe TR.

Surgery has long been considered the only corrective option, though the clinical experience has been largely in the context of left-sided valve disease or concomitant bypass grafting. For isolated TR, surgery is relatively uncommon (i.e., ~8000 cases per year in the U.S.), is often a high-risk endeavor, and is adversely affected by a remarkable lack of consensus on indications and timing. Indeed, appropriate medical therapy has not been well defined, with the mainstay of diuretics being a palliative approach to care. These management issues are only further compounded by the wide array of TR etiologies (e.g., functional, pacemaker lead-induced, arrhythmogenic), whose heterogeneity must be matched by a multi-disciplinary approach to these patients. Taken together, these issues

have conspired to make TR patients some of the most challenging to address in cardiovascular medicine.

With these unmet clinical needs, the field of TR is now rapidly transforming. New insights into improved echocardiographic quantitation and multi-modality assessment (e.g., cardiac computed tomography, magnetic resonance imaging) are helping us to better identify and delineate patients with TR, including those at the pathological extremes. Refinements in surgical techniques and peri-operative care (e.g., right ventricular failure management) to optimize outcomes are ongoing. Scores of novel catheter-based therapies that target all aspects of the tricuspid valve apparatus (e.g., leaflets, annulus, and ventricle) are under development and already are being evaluated in investigational studies. The efficacy and safety of these therapies, with the use of study endpoints in randomized fashion, will provide therapeutic targets in clinical practice, as will help us understand the benefit of targeting TR correction to alter symptoms, quality-of-life, and prognosis in these patients.

Addressing the high-risk and unmet clinical needs in the field of TR is indeed revolutionary and is just the beginning (Fig. 1). The future of the field of TR will be determined through increased public awareness, more scientific inquiry into the methods for evaluation, the

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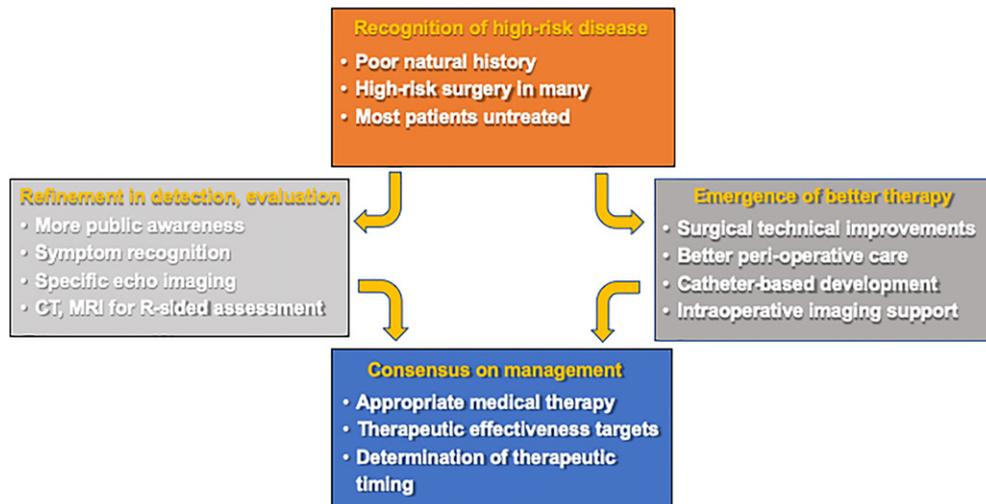


Fig. 1. The revolution in tricuspid regurgitation.

development of new treatment methods, and building of consensus in management. In this issue of *Progress in Cardiovascular Diseases*, we present state-of-the-art reviews that provide remarkable insight into what that future may hold. It is hoped that the future will entail a progress in understanding how to better care for patients with TR, who unnecessarily suffer in current clinical practice.

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#### **Statement of Conflict of Interest**

None of the authors have any conflicts of interests with regard to this publication.

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