

# Approaches to Valvular Heart Disease in the Primary Care Setting



## Classic Presentations and Current Management Guidelines

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### KEYWORDS

- Valvular heart disease • Aortic stenosis • Aortic regurgitation • Mitral stenosis
- Mitral valve prolapse • Mitral regurgitation • Tricuspid stenosis
- Tricuspid regurgitation

### KEY POINTS

- Valvular heart disease is a common subset of cardiac disease whose prevalence significantly increases with age.
- Valvular heart disease often presents with classic history and physical examination findings that are essential to its ultimate diagnosis.
- Careful consideration of risk/benefit analysis with the patient is key to determining the ultimate course of patients diagnosed with valvular heart disease.
- Symptoms of valvular heart disease often precedes significant irreversible hemodynamic dysfunction.

### INTRODUCTION

In general, valvular heart disease (VHD) can manifest as stenosis, regurgitation, or both of the aortic, mitral, tricuspid, or pulmonic valves. In addition to those conditions, mitral valve prolapse (MVP) can also occur. VHD is a common condition in developed and developing countries, although the cause and epidemiology differ greatly between the two socioeconomic states. Rheumatic heart disease (RHD) was the typical cause of VHD worldwide. However, over the last 6 decades, a drastic change in the cause has occurred. In developed industrialized nations, RHD has become exceedingly

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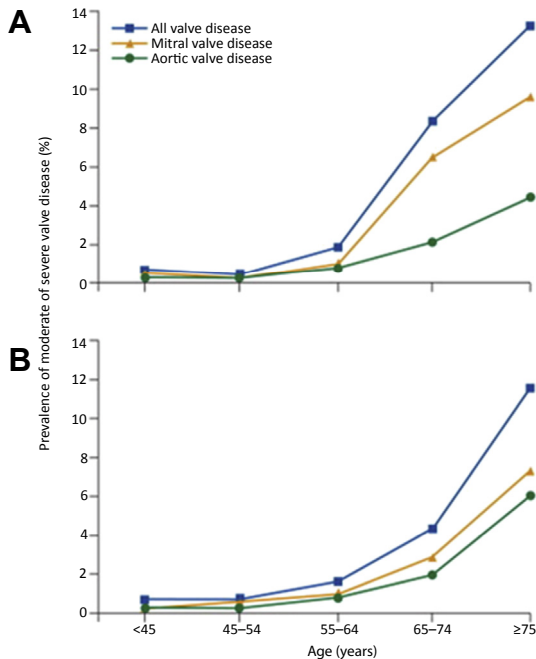
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rare and, as such, has been replaced by calcific degenerative causes with postinterventional, infective endocarditis and connective tissue disorders contributing as well.<sup>1</sup> RHD is still the chief cause in developing countries where rheumatic fever is still prevalent.<sup>1</sup> In the United States, the prevalence of VHD in the population as a whole is approximately 2.5%.<sup>2</sup> Further, in developed countries, because of the predominance of degenerative causes, the prevalence of moderate to severe VHD increases precipitously with age (Fig. 1). According to one meta-analysis of sampled database populations, a prevalence of 0.3% was found in the 18 to 44 years old age bracket but increases dramatically to 11.7% in people aged 75 years and older (see Fig. 1).<sup>2</sup> In addition, in the group aged 75 years or older, the most common valvular disorder by far was mitral regurgitation (9.3%), followed by aortic stenosis (AS) (2.8%), aortic regurgitation (2.0%), and mitral stenosis (0.2%).<sup>2</sup> The age adjusted prevalence of the population as a whole followed this same hierarchy although the prevalence of each was lower because of the lower prevalence in younger age groups. The effect of these conditions on mortality is not negligible, with a population-adjusted risk ratio of 1.36.<sup>2</sup> The Euro Heart Survey studied a pool of 5001 patients, 18 years of age and older, who were encountered in clinics or hospitalized and who underwent screening echocardiography. Those who had evidence of primary and significant valve disease were included. Of those patients who had no previous valve surgery, AS was most common (33.9%) with mitral regurgitation (24.9%), multiple (20.2%), aortic regurgitation (10.4%), and mitral stenosis (9.5%).<sup>3</sup> Isolated right-sided valve disorders were seen in only 0.8% of the population, with approximately 85% and 9.7% of these having isolated tricuspid valve regurgitation and isolated pulmonic involvement respectively.<sup>3</sup> What can be concluded is that, generally, VHD in the developed world is



**Fig. 1.** Age-stratified prevalence of VHD. (A) Frequency in Population Based Studies (B) Frequency in Olmstead County (MN) community. (Data from Nkomo VT, Gardin JM, Skelton TN, et al. Burden of valvular heart disease: a population-based study. *Lancet* 2006;368(9540):1005–11.)

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