The Heart Health Centre
Education • Prevention Intervention Support & Management

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Mitral Valve Prolapse

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Mitral valve prolapse (MVP) refers to a systolic billowing of 1 or both mitral leaflets into the left atrium with or without mitral regurgitation (MR). Using current echocardiographic criteria for MVP, its prevalence is 1-2.5% of the population. MVP occurs as a clinical entity with or without thickening (≥5 mm) of the mitral leaflets, and with or without MR.

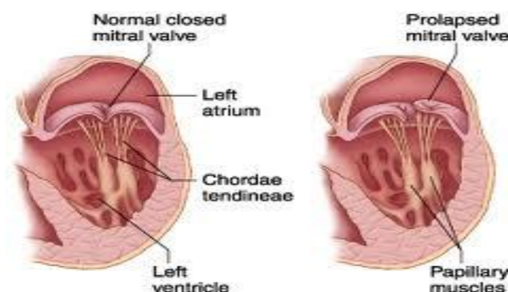
Primary MVP can be familial or nonfamilial. It can be associated with connective tissue diseases such as Marfan's syndrome. The basic microscopic feature of primary MVP is marked proliferation of the spongiosa, the delicate myxomatous connective tissue between the atrialis (a thick layer of collagen and elastic tissue that forms the atrial aspect of the leaflet) and the fibrosa or ventricularis (dense layer of collagen that forms the basic support of the leaflet). Accumulation of mucopolysaccharides in the spongiosa causes focal interruption of the fibrosa.

Many patients are asymptomatic. In others, palpitations and atypical chest pain are frequent. The auscultatory findings in MVP, when present, may consist of a mid-systolic click or multiple clicks, as well as a late systolic or holosystolic murmur of MR. There may be left atrial dilatation and LV enlargement, depending on the presence and severity of MR. MVP is associated with increased incidence of secundum atrial septal defect and/or left-sided AV accessory pathways and supraventricular arrhythmias.

The natural history of MVP can vary from benign with normal life expectancy (the majority of patients) to a course with significant morbidity and mortality. The predictors of morbidity and mortality include: significant mitral regurgitation, valve thickness > 5mm, and LVEF < 50%. Progressive MR results in atrial dilatation, atrial fibrillation, pulmonary hypertension and heart failure.

Palpitations from atrial arrhythmia can be safely managed with beta blockers. If a patient with MVP experiences a cerebrovascular event, aspirin should be initiated in cases when there is no atrial fibrillation, patient's age is < 65 years, there is no or minimal MR, and no heart failure. Otherwise, warfarin must be considered. In rare cases of ventricular tachycardia or unexplained syncope, a complete electrophysiology study is indicated.

In cases of severe MR due to MVP, especially if there is a flail leaflet, surgical mitral valve repair is the procedure of choice. Over 90% of such valves can be successfully repaired in the hands of a skilled surgeon. Studies have confirmed excellent durability of the repair and overall survival. After mitral repair, patients require lifelong prophylaxis against infective endocarditis.



Our Physicians

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Our Services

Consultation Services
Diagnostic Testing and Imaging
- Electrocardiogram
- Treadmill Stress Test
- Echocardiogram
- Stress Echocardiogram
- Nuclear Stress Testing (Pharmacological and Exercise)

This Month

April 30th-May 1st Dr. McGhie
(Nuclear Stress Testing Available)

May 17th-18th Dr. Chhatriwalla

May 24th-26th Dr. Rivas-Gotz
(Nuclear Stress Testing and Stress Echocardiography Available)

May 28th-30th Dr. Kosiborod
(Stress Echocardiography Available)

For additional information refer to ACC/AHA Guidelines on Valvular Heart Disease published in JACC (Journal of the American College of Cardiology) 2008.

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