

Letter to the Editor

## Mitral Valve Prolapse in Service Personnel : Clinical and Echocardiographic Correlation

Sir,

Prolapse of the Mitral valve (MVP), the so called click-murmur syndrome, is not an uncommon diagnosis especially in centres with facility of 2D and M-mode echocardiography. Sometimes the clinical presentation is atypical and bizarre and unless clinicians evaluate their subjects with high index of suspicion many cases are likely to be missed. This is so especially in young individuals reporting for medical evaluation prior to entry into National Defence Academy or other Service courses including flying. Missing MVP at this stage leads to problems later in service with fall out and loss to the State. We, therefore, subjected all candidates with systolic murmur to echocardiography to exclude this defect. Of the 1337 cases evaluated by us, 53 cases showed confirmatory evidence of Mitral valve prolapse by 2D and M-mode echocardiography. The present investigation analyses the clinical finding of these cases in relation to degree of prolapse seen by echo study. The problems faced in diagnosis are brought out and the pros and cons of employability of such persons in service are discussed.

MVP is being diagnosed increasingly in the present day clinical practice. What is debatable is the long term prognosis of MVP<sup>1</sup>; some studies strongly suggest that it is not so benign a disorder<sup>2</sup>.

Of 1337 cases evaluated, 981 cases were asymptomatic, formed mostly of young individuals seeking entry into Armed Forces, many of them for aviation duties, and 356 cases were the patients with symptoms referred to cardiac out-patient department. All these patients went through physical examination, 12-Lead ECG and echocardiography (M-mode and 2D), some underwent exercise ECG test and Holter monitoring and a few angiocardiography.

MVP was considered to be present when on echocardiography a late or pansystolic movement 2 mm above the line of coaptation of

the mitral valve (MV) leaflets during systole (the CD line) was seen. Two dimensional scans, in both the apical 4-C and long axis views were taken to confirm MVP.

Out of 981 asymptomatic individuals, 36 had MVP. The ages ranged from 18 to 47 years, all being males. All of them had non-ejection click and late systolic murmur. One had supraventricular ectopics, one had ventricular premature contractions (VPC's) and two showed incomplete right bundle branch block on ECG. The pulmonary artery showed dilatation in the two cases with incomplete right bundle branch block. 30 patients underwent M-mode echo only, the other six having the benefit of both M-mode and 2D echo. Late systolic prolapse of anterior mitral leaflet (AML) was seen in 27, pansystolic prolapse of AML in 5, both leaflets prolapsing in 3, and tricuspid valve prolapse in 2 cases. One candidate who was suspected to have Atrial Septal Defect (ASD) was subjected to catheterisation studies, and was found to have MVP (AML) but no ASD.

In the symptomatic group there were 17 cases, age ranged 16 to 45 years and consisted of 5 males and 12 females. The symptoms were palpitation (4) dizziness (1), chest-pain (6) and transient visual field defects. One had sick sinus syndrome, one had WPW syndrome, three had hypertension, and one ASD. Echo (M-mode and 2D) showed late systolic prolapse of AML in 16, and pansystolic prolapse of AML in one. Stress test was "Positive" in 4 cases and in one it provoked supraventricular tachycardia (SVT). Holter monitoring (24 hours) showed ST shift in 3 cases and SVT in 2 cases. The female patient with WPW syndrome, MVP and chest pain was subjected to coronary arteriography; her coronary arteries were normal and MVP was confirmed.

Echocardiographic evidence of MVP is reported to be seen in 5% to 15% of normal

population, 17% amongst young women between 20 to 30 years of age and 2-4% amongst men<sup>3</sup>. It was seen in 3.6% of asymptomatic young healthy individuals in our study.

Amongst the symptomatic group, more than half were females. The symptomatic group had been followed up for a year and none has shown deterioration or complications. Two cases had transient blindness. There had been no recurrence during a period of one year.

None amongst the asymptomatic group had any features to suggest an unfavourable prognosis. Should they be considered as "Variant of Normal?"<sup>3</sup>. We feel that further studies will be required to come to a consensus as to what constitutes a "Pathologic Prolapse".

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