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A VERY RARE DISSOCIATION – A CASE OF PARACHUTE MITRAL VALVE PRESENTING WITHOUT CONGENITAL MITRAL STENOSIS

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ABSTRACT
The mitral valve is the inlet valve to the left ventricle (LV). The normal mitral valve is a complex apparatus composed of an annulus and 2 leaflets that are attached by chordae tendineae to 2 papillary muscles. The papillary muscles arise from the walls of the LV and secure the chordae and mitral leaflets, preventing prolapse of the valve during ventricular systole.

INTRODUCTION

Proper function of the mitral valve requires an intact mitral valve apparatus and satisfactory LV function. Mitral stenosis (MS) results from any pathologic process that narrows the effective mitral valve orifice at the supravalvular, valvular, or subvalvular levels.

The causes include hypoplasia of the mitral valve annulus, mitral valve commissural fusion, double orifice mitral valve, shortened or thickened chordae tendinae, and parachute mitral valve, in which all chordae attach to a single papillary muscle.

Parachute mitral valve (PMV) is a rare congenital anomaly of the mitral valve apparatus seen in infants and young children.

Parachute mitral valve is defined as a unifocal attachment of mitral valve chordae independent of the number of papillary muscles [1].

In PMV the chordae tendinae from both mitral valves leaflets instead of diverging to insert into two papillary muscles converge on a centrally placed, single papillary muscle [2].

PMV usually occurs either as a part of Shone's complex or in association with other congenital heart diseases including aortic valve stenosis (32%), atrial septal defects (54%), and hypoplastic left heart (19%). Isolated PMV is rare accounting for less than 1% of all cases [2].

In most instances PMV is associated with other congenital anomalies of the heart, in particular obstructive lesions of the mitral inflow (mitral valve ring) and left ventricular outflow tract (subaortic stenosis), and coarctation of aorta and is referred to as Shone's complex or Shone's anomaly [3].

Here we present a rare case of parachute mitral valve presenting without mitral stenosis.

CASE REPORT

A 2yrs old asymptomatic male child presented with chest wall deformity on examination pectus carinatum was noted (FIG.1). On ausculataion long systolic murmer with grading III/VI was heard 2D Echocardiography revealed mid muscular ventricular defect with single papillary with all the chordae attached to it.

This case is unique in which parachute mitral valve is not associated with congenital mitral stenosis.

Figure 1. Photo of the boy showing pectus carinatum with harrison sulcus with precordial bulge an indirect indicator of recurrent respiratory tract infection.

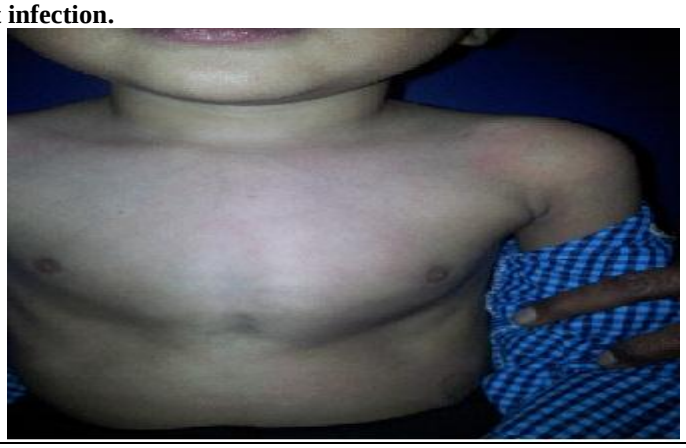


Figure 2. Apical four chamber view showing single papillary muscle (slanting right looking arrow) with false tendon (down looking arrow)

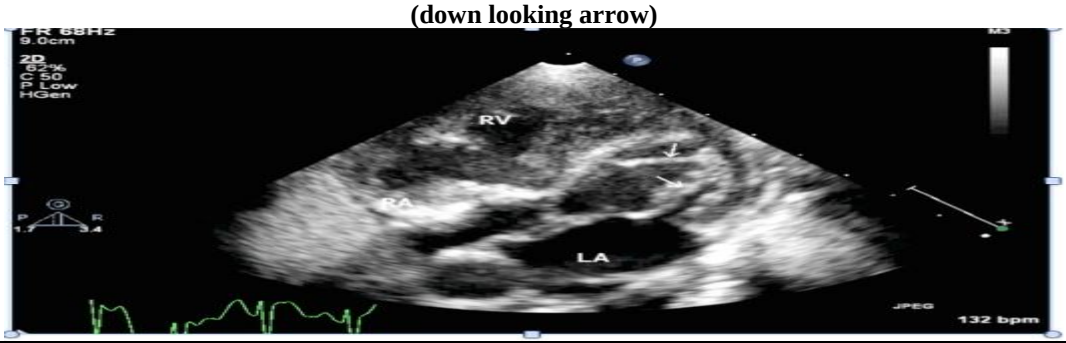


Figure 3. Apical four chamber view showing mid muscular VSD with single papillary muscle

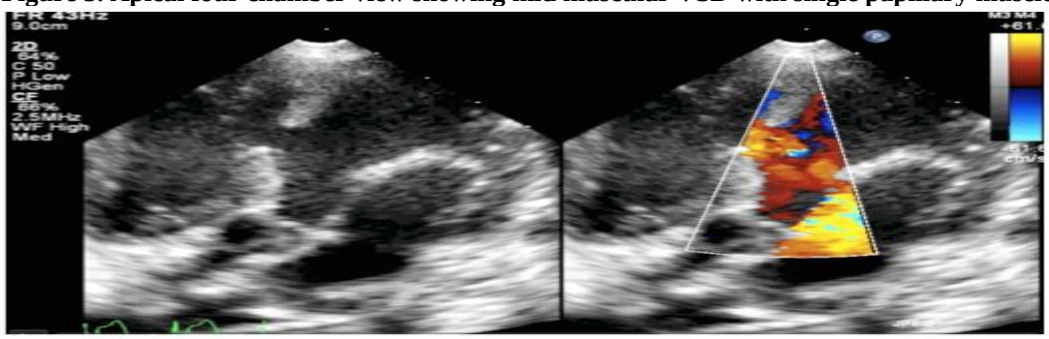
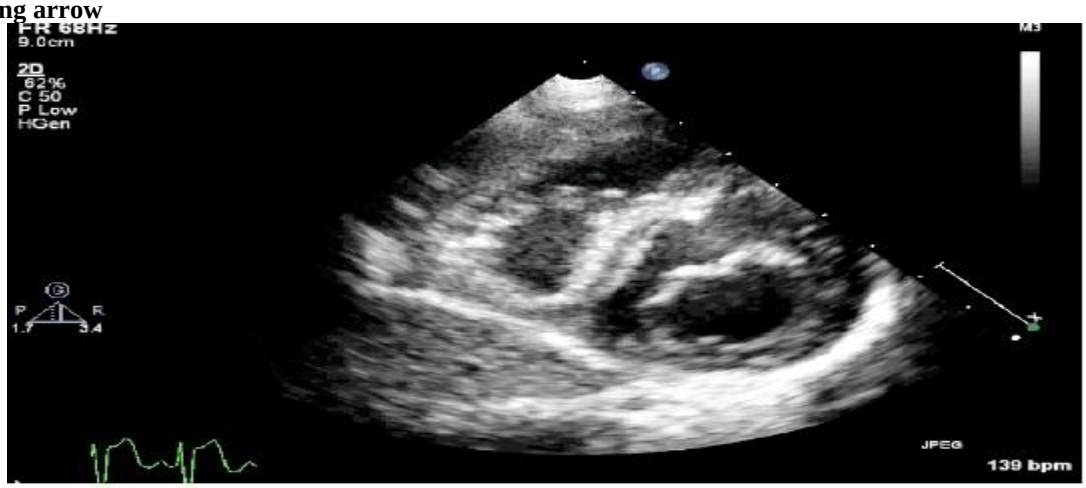


Figure 4. Apical four chamber view showing mitral valve without stenosis (left looking arrow) and tricuspid valve (right looking arrow



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