



UNCOMMON CAUSE OF MITRAL REGURGITATION IN SCHOOL AGE CHILD

Paediatrics

**Dr. Poonam
Thakur**

Assistant Professor, Department Of Pediatrics, VM GMC, Solapur.

**Dr. Pritesh. A.
Pawar**

Consultant Cardiologist Yashodhara Superspeciality Hospital, Solapur.

**Dr. Shivshakti
Pawar**

District Surveillance Officer, District Health Office, Nanded.

ABSTRACT

Double Outlet Mitral Valve (DOMV) is a rare congenital malformation (<0.05%), (1) first reported by Greenfield in 1876. (2) It is often associated with atrioventricular canal defects, although it can be seen either as an isolated malformation or in association with other cardiac anomalies. We present a case of 6 year boy who presented with history of gradual deterioration in capacity of physical activity limited by breathlessness. On examination had grade 3/6 pansystolic murmur in left parasternal region. Echocardiography revealed dilated left atrium and left ventricle. Mitral valve was divided into 2 separate valve orifices by a fibrous bridge. Severe mitral regurgitation was documented by color Doppler flow imaging. There was a perimembranous VSD (ventricular septal defect) with left to right shunt. He was advised surgical management.

KEYWORDS

DOMV (Double outlet mitral valve), perimembranous VSD (ventricular septal defect).

CASE:

A 6 year old boy presented with history of gradual deterioration in capacity of physical activity limited by breathlessness. He neither had history of fever, joint pain, cough, rash nor any past medical history of hospitalisation. On physical examination, there was grade 3/6 pansystolic murmur in left parasternal region. Electrocardiograph and chest x-ray were normal. Echocardiography revealed dilated left atrium and left ventricle. Mitral valve was divided into 2 separate valve orifices by a fibrous bridge. During diastole in four chamber view, the anterior mitral leaflet appeared like a 'V' due to an abnormal bridge of fibrous tissue connecting the two leaflets. Color Doppler flow imaging of the mitral valve showed 2 separate envelopes of antegrade flow into the left ventricle through the double orifices during diastole. Severe mitral regurgitation was documented by color Doppler flow imaging. The left ventricular ejection fraction was within normal limits. There was a perimembranous VSD (ventricular septal defect) with left to right shunt. In view of patient's age and the cardiac lesion i.e. DOMV (Double outlet mitral valve) associated with small size VSD with mitral valve regurgitation, patient was advised surgical management.

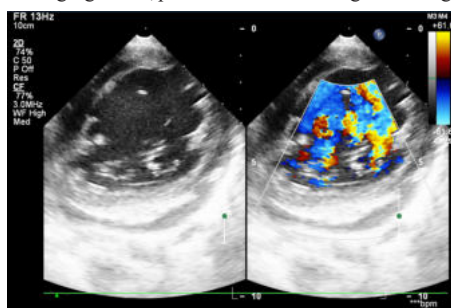


Figure 1: shows short axis view with double orifice mitral valve along with color flow Doppler image at the same plane showing severe mitral regurgitation.

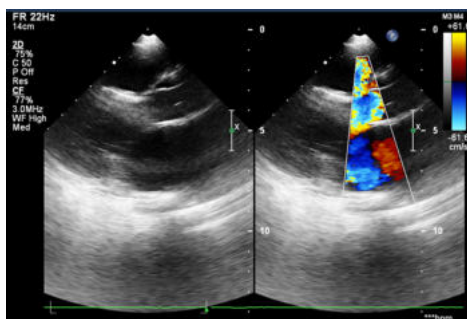


Figure 2: Parasternal long axis view shows perimembranous VSD

DISCUSSION:

Double Outlet Mitral Valve (DOMV) is a rare congenital malformation (<0.05%), (1) first reported by Greenfield in 1876. (2) It is often associated with atrioventricular canal defects, although it can be seen either as an isolated malformation or in association with other cardiac anomalies.

Based on echocardiographic imaging DOMV is classified into 3 different types: a) hole type (accessory orifice surrounded by leaflet tissue that may have a chordal ring), b) complete bridging (fibrous bridge in the plane of the mitral valve, dividing the mitral valve opening into 2 parts that may be equal or unequal), and c) incomplete bridging (small strand of fibrous tissue connects only the tips of the anterior and posterior leaflets. (3)

Management depends on the type and severity of mitral valve dysfunction. Isolated DOMV causing neither obstruction nor regurgitation needs no active intervention. Surgical intervention is necessary when stenosis or incompetence is severe or if repair of an associated cardiac lesion is needed. Long-term follow-up is necessary to detect subsequent abnormal hemodynamics or complications.

REFERENCES:

1. Banerjee A et al. Echocardiographic evaluation of congenital mitral valve anomalies in children. *Am J Cardiol.* 1995;76(17):1284-91.
2. Greenfield WS. Double mitral valve. *Trans Pathol Soc.* 1876;27:128-9.
3. Trowitzsch E, Bano-Rodrigo A, Burger BM, Colan SD, Sanders SP. Two-dimensional echocardiographic findings in double-orifice mitral valve. *J Am Coll Cardiol.* 1985;6:383-7.