Case Report

A Rare Case of Acquired Gerbode Defect

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Abstract

In this case report, we describe a rare case of acquired intracavitary shunt from the left ventricle to the right atrium that was found four months after aortic valve replacement surgery. This comprises less than 1% of all congenital heart defects.

Key Words: Gerbode defect, Direct and indirect type

Introduction

A rare intracavitary shunt from the Left ventricle to the right atrium was first described by Gerbode in 1958[1]. Acquired Gerbode defects are more common than congenital form[2]. Acquired defects can occur after trauma, endocarditis and valve replacement surgeries[3] .

Case Report

A 70-year-old man who presented with dyspnea on exertion (NYHA III) was diagnosed to have Calcific Aortic Stenosis. His routine blood investigations were within normal limits. Chest X ray showed mild cardiomegaly and dilated ascending aorta. Transthoracic echocardiogram showed calcific Aortic stenosis (Aortic Valve pressure gradient -111mm Hg) with mild eccentric regurgitation and concentric left ventricular hypertrophy (fig - 1). Left ventricular function was good (EF-69%). Patient underwent Aortic valve replacement with a 21mm Bioprothetic valve after decalcification of the annulus. He made an uneventful recovery and discharged on the sixth postoperative day. His Trans esophageal Echocardiography (TEE) showed normal valve and LV function.

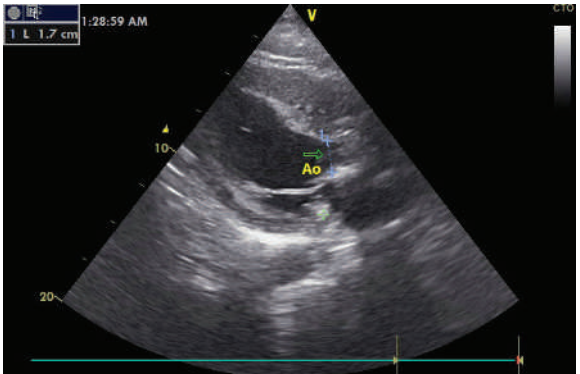

Fig - 1: Pre Op TEE showing calcific aortic annulus and intact septum

At his Four-month review, the Trans thoracic Echocardiogram (TTE) showed a small shunt between the Left ventricle and the Right atrium (fig 2). The gradient across the defect (4mm in size) was 102mmHg. There was no dilation of right atrium and right ventricle. He did not have a murmur and was asymptomatic. It was decided to follow up the patient, with no immediate intervention.

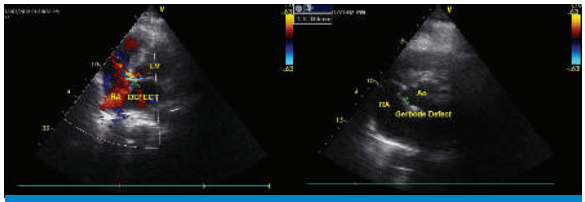

Fig - 2: TTE showing direct type Gerbode defect

Discussion

Left ventricular to right atrial shunt comprises less than 1% of all congenital heart defects[3]. However acquired shunt after infective endocarditis, trauma, valve replacement and Myocardial Infarction are relatively more common[4].

Patient with acquired Gerbode defect are often symptomatic and present with symptoms and signs of congestive failure and heart block. The onset of the defects is usually after two months but less commonly occur even a year after the primary insult[4].

The relative apical insertion of the Tricuspid septal leaftlet divides the Membranous septum into two portions, the upper ventriculo-atrial and lower interventricular. The indirect Gerbode defect (congenital form), the defect is below the septal leaflet and in the direct type (acquired) the defect is above the septal leaftlet[5].

The diagnosis is commonly made by echocardiography, the TEE being superior to TTE. Cardiac Magnetic Resonance Imaging and catheterisation may be used in difficult cases especially when there is a valve in situ[6].

In a review of literature, Yuan et al found that there was a significant difference in outcome, with a trend towards a higher mortality in conservatively managed patients with acquired defects compared to congenital defects[4]. However Toprak et al recommended that asymptomatic patients can be managed conservatively with close follow up, especially if Right atrium and Right ventricle are not dilated and the Qp/Qs (Pulmonary-Systemic flow ratio) is <1.5[7].

In conclusion, Gerbode defects are rare, acquired defects are relatively more common and can have significant clinical impact. Most of these defects are likely to be diagnosed with increasing index of suspicion and improved imaging modalities.

References

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