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A Large Esophagus Covering an Atrial Septal Defect: A Case Report

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ABSTRACT

In this report, we describe a case of a 30-year-old male presented to the cardiology physician for a preoperative evaluation. Physical exam revealed a midsystolic murmur at the pulmonary area with no fixed splitting. On 12 leads EKG, an incomplete right bundle branch block was noticed. On transthoracic echocardiography discovered a round shaped unidentified organ and an atrial septal defect type ostium secundum.

Keywords: Pulmonary stenosis, Echocardiography, Heart septal defects, Atrial, Ostium secundum defect, Ostium primum defect

INTRODUCTION

The atrial septal defect (ASD) is one of the most common congenital anomalies in adults [1], but it is rarely diagnosed. It can be presented at any age. Females constitute 65% to 75% of patients with secundum ASDs. On the other hand, the gender distribution is equal for sinus venosus and ostium primum ASDs. The most common type is the ostium "secundum" (80% of the ASD) located in the region of the fossa ovalis [2,3].

It is characterized by a defect in the interatrial septum that allows pulmonary venous return to pass from the left to the right atrium resulting in a right ventricular overload and pulmonary over circulation, due to the high compliance of the right ventricle compared to the left ventricle.

A decrease in the right ventricle (RV) compliance as in pulmonary stenosis or pulmonary artery hypertension will result in shunt reversal and an Eisenmenger syndrome, a cyanotic condition.

A small defect of less than 0.5 cm in diameter may be associated with a small shunt and no significant sequelae. A larger defect, of more than 2 cm in diameter, may be associated with a large shunt with important blood flow changes.

Sizeable ASDs with right heart dilation is correlated with an important age-related morbidity and mortality. Advanced diagnostic modalities, earlier closure, and the advent of catheter intervention (for secundum ASDs) are all likely to improve long-term prospects for these patients. Current evidence would suggest that all types of ASDs with right heart dilation should be considered for timely closure once the diagnosis is established, irrespective of age [3,4].

CASE PRESENTATION

A 30-year-old male presented for a pre-operative cardiac examination. Patient had no dyspnea, orthopnea, lower extremities swelling, palpitations nor chest pain. He complained about dysphagia, some regurgitation, and heartburns. He had no previous medical history, familial cardiac history, and no risk factors.

Physical examination revealed a regular pulse 75 beats/min, blood pressure of 120/60 mmHg, normal chest auscultation, no lower extremities swelling. Heart sounds examination revealed a midsystolic murmur at the pulmonary area with no fixed splitting. The jugular veins were not distended. The liver margins were normal with a soft abdomen. The spleen could not be felt.

Electrocardiogram done showed a normal sinus rhythm of 75 beats per minutes with an incomplete right bundle branch block with a right axis deviation.

Transthoracic echocardiography (Figure 1a) reported a dilated right heart: a dilated right atrium (area=26 cm^2) and a dilated right ventricle (base diameter=48-50 mm) (Figure 1b) with a conserved RV function. A mild tricuspid regurgitation (grade I-II) with an eccentric jet directed to the interatrial septum was noted. A systolic pulmonary artery pressure measured on the tricuspid regurgitation flow of 38 mmHg. (The right atrial pressure estimated on the subcostal view was about 5 mmHg.). Normal ejection fraction with abnormal septal kinesis.

An atrial septal defect ostium secundum (20-24 mm) with left-to-right shunt was discovered (Figures 1b and 1c). A round shaped unidentified organ was visible on echocardiography (Figure 1a).

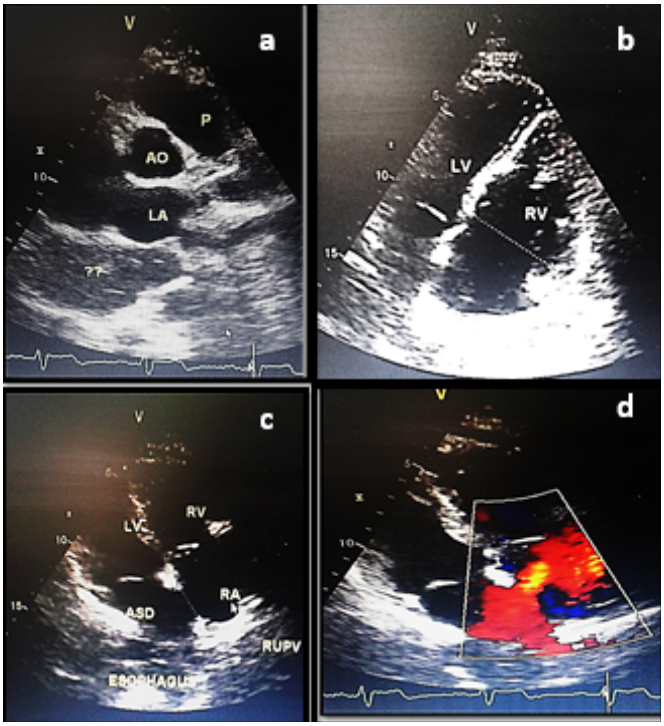

Figure 1 Transthoracic echocardiographic views of the patient (a) Arasternal short axis view revealing an unknown organ beside the left atrium; (b) 4 chambers view revealing right ventricle dilatation, (c) 4 chambers view revealing the ASD and the esophagus; (d) Subcostal view revealing ASD; P=Pulmonary Artery, Ao=Aorta, LV=Left Ventricle, RV=Right Ventricle, ASD=Atrial Septal Defect, RUPV=Right Upper Pulmonary Vein

DISCUSSION

The patient described in this case is a young asymptomatic male presented for a preoperative cardiac examination. While performing echocardiography, an ASD was discovered of approximately 2 cm of diameter with difficulty of identifying the diameter due to interposition of a digestive organ. The patient noticed having an esophageal condition: achalasia. A barium meal was done to confirm the diagnosis. A transesophageal echocardiography is necessary to estimate the rims of the defect to prepare for closure. Notice that achalasia is a relative contra-indication to transesophageal echocardiography [5]. After treating the underlying digestive problem TEE will be possible to estimate precisely the ASD. Patient performed a surgical myotomy for the achalasia problem after pharmacological therapy has failed to relieve his symptoms [6]. TEE was performed. A minimally invasive transcatheter closure was suggested. The patient recovered after implantation of an amplatzer septal occluder.

CONCLUSION

It is a case of ASD in an asymptomatic patient with achalasia revealed by transthoracic echocardiography. Achalasia, a relative contraindication for transesophageal echocardiography (TEE), was treated successfully. The patient had a TEE to identify the rims and confirm the diagnosis.

DECLARATIONS

Conflict of Interest

The authors have disclosed no potential conflicts of interest, financial or otherwise.

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