

# A Case of Atrioventricular Septal Defect with Septal Cystic Mass

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## **Abstract:**

Blood cyst of the heart is almost always congenital in origin and is rare in adults. We describe a pediatric patient with a cystic lesion.

**Keywords:** Blood cyst, congenital cardiac cyst, intracardiac cyst

## **Case Presentation:**

A 10 year –old boy with exertional dyspnea since one year ago was referred to our hospital for cardiac problems evaluation. On physical examination, he was acyanotic, well developed, well nourished, and had a 2/6 systolic murmur in left sternal border. Electrocardiogram showed normal sinus rhythm and left axis deviation. Chest X-ray examination showed cardiomegaly and increased pulmonary vascularity. Echocardiography revealed primum atrial septal defect (17mm), mild to moderate mitral regurgitation (eccentric jet, peak pressure gradient = 80mmhg) and anterior mitral leaflet cleft, mild tricuspid regurgitation, good ejection fraction(70%), small size ventricular septal defect (4-5mm), left ventricular to right atrium shunt and a round cystic mass

in inlet portion Of interventricular septum (figure1).

On cardiac catheterization, pulmonary artery pressure was normal, otherwise the findings of echocardiography was confirmed. The patient was scheduled for surgery with a diagnosis of transitional atrioventricular septal defect. After routine cannulation, initiation of cardiopulmonary bypass and induction of cardiac arrest with cold blood cardioplegia, right atriotomy was made. A 2 cm in diameter spherical mass attached to the base of tricuspid septal leaflet and the septal crest was found (figure 2). The mass was cystic, reddish, relatively soft, without extensive attachment to surrounding tissues.



Figure 1-echocardiographic view of cyst

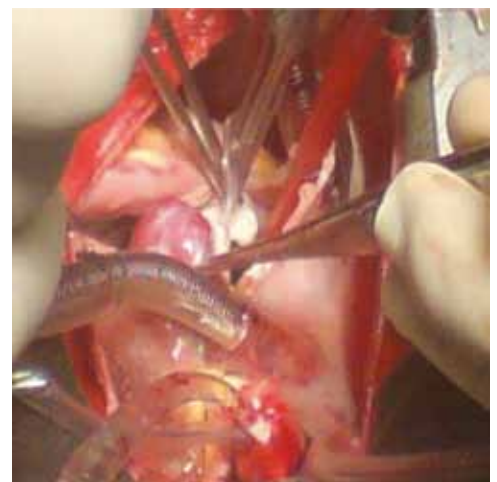


Figure 2-Intraoperative view of cyst

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It was resected completely without septal leaflet damage. About 4cc nonclotted blood was drained from the cyst. It was unilocular with very thin wall which sent for histopathological examination (figure 3).



Figure 3- View of resected and drained cyst

Mitral valve was repaired with cleft closure and neochochordal insertion of anterior leaflet. Ventricular septal defect and atrial septal defect was closed with autologous pericardial patch. (fig.4 )

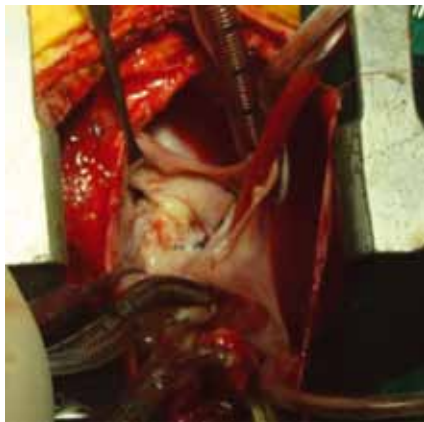


Figure 4-View of post repair of defects and cyst resection

The hospital course was uneventful. Postoperative echocardiography revealed no tricuspid regurgitation, no mitral regurgitation, no residual ventricular septal defect or atrial septal defect and good ejection fraction. Histopathological examination revealed myxoid valvular tissue.

The patient was discharged one week after operation. In postoperative visit one month later, the patient was in good condition and echocardiographic findings were acceptable.

### Discussion:

Intracardiac blood cysts were first reported by Elsasser in 1844(1, 2). These cysts are typically asymptomatic, usually congenital in origin and are commonly seen in infants (2, 3, 7). They regress spontaneously in most of the affected patients and are rare in adults (2, 3). Histologically, These thin-walled cysts contain nonorganised blood or serosanguinous fluid (2). These cysts are normally covered by endothelial cells. They are not true vessel or hemangioma (7). The potential complications of intracardiac cysts include valve dysfunction, pathway obstruction, endocarditis and embolism (2, 4, 5). Echocardiography of these defects will show a thin-walled cystic mass with an echo-free space within it (2, 3, 6). Regarding the mechanism of cyst formation, there is no definitive explanation. It seems that fibrotic degeneration of the atrioventricular membranous septum along with closure of its entrance neck is the most probable mechanism (5, 7).

The present case is an atrioventricular septal defect anomaly associated with a tumor like spherical lesion, demonstrated to be a benign cystic mass. We showed that excision of the cyst is feasible and add no more risk. To know this association will help cardiac surgeon to design the treatment strategy. It is obvious that because of potential complications and the need to rule out malignant conditions, complete excision is almost always indicated.

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