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Case Report Open Access

Accessory Tricuspid Valve Leaflet in an Asymptomatic Adult

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Abstract

Accessory tricuspid valve is a rare congenital cardiac anomaly that it most frequently seen in children with complex congenital heart disease. Symptoms depend mostly on coexisting cardiac defects. We present an accessory tricuspid valve in an asymptomatic adult.

Keywords: Cardiovascular pathology; Congenital heart disease; Valve repair/replacement

Introduction

Accessory Tricuspid Valve (ATV) is a rare congenital cardiac anomaly that is frequently observed in children with complex congenital anomalies [1-6]. We present a rare case of isolated ATV in an asymptomatic adult.

Case Report

A 36-year-old female without previous cardiac history underwent cardiac examination as part of a check-up. Physical examination and electrocardiographic, chest radiographic and laboratory values were within normal ranges. The transthoracic echocardiogram performed as part of a cardiac check-up revealed a large mobile mass on the septal leaflet of the tricuspid valve. The transesophageal echocardiogram showed a markedly redundant, elongated tricuspid valve leaflet that prolapsed into the right atrium (Figure 1). Surgical resection was performed because of the large size and mobility of the mass and the risk of subsequent embolism or obstruction. During the operation, after right atriotomy, redundant ATV tissue was observed on the septal leaflet of the tricuspid valve. This mass had some chordal attachment to the ventricular septum and right atrium. The mass was carefully resected using the saline injection test. The gross appearance of the resected tissue was similar to normal valve tissue (Figure 2). After resection, a ring was implanted, and suture valvuloplasty of the remaining valve leaflets was performed. The histopathologic analysis of this resected tissue showed an endocardial layer covering hyalinized fibrovascular tissue, which confirmed ATV (Figure 3). The hospital course was uneventful, and the patient was discharged on the 6th day in good condition.

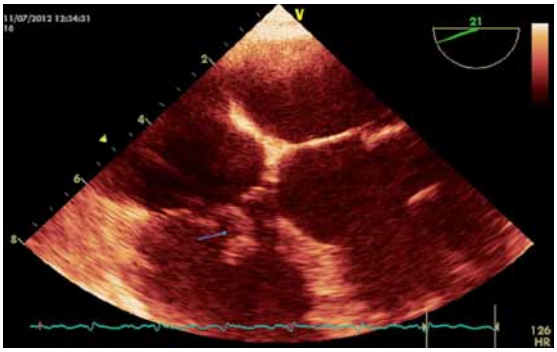

Figure 1: The accessory tricuspid valve leaflet on transesophageal echocardiogram.

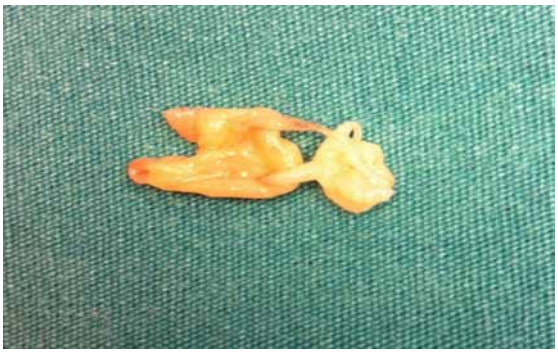

Figure 2: The accessory tricuspid valve leaflet.

Discussion

Only a few cases of ATV have been reported, and it is frequently associated with other congenital defects, such as tetralogy of Fallot, transposition of the great arteries and ventricular septal defects [1-6]. According to our best knowledge, only one ATV case has been reported in an asymptomatic adult thus far [7]. Two types of ATV have been defined: mobile and fixed [2,3]. The mobile type is a parachute-like leaflet floating freely in the right ventricle via a long chordae. The fixed type is firmly anchored to the interventricular septum by short chordae.

The symptoms of ATV depend on other coexisting cardiac defects. Adhesions of the fixed ATV to the edges of the VSD can cause a fixed obstruction of the VSD [3,5]. Accessory mobile-type ATV can cause obstruction in the right ventricle outflow tract or the left ventricle outflow tract through passing the VSD [4]. Differential diagnosis particularly includes the papillary fibroelastoma [PF]. The diagnosis is confirmed by a histopathologic examination showing vascular papillomas with a single layer of endocardial cells covering the papillary

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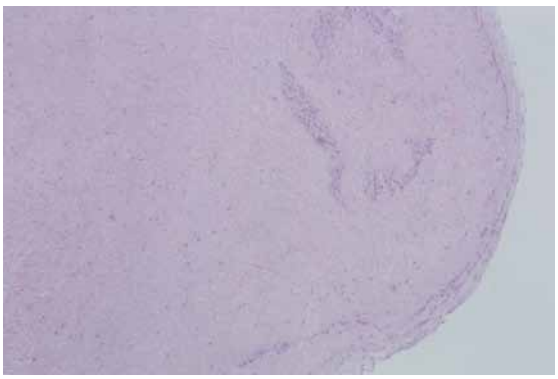

Figure 3: The endocardial layer covering the hyalinized fibrovascular tissue (HEX 40).

surface [8]. Although PF is usually asymptomatic, it can present with syncope, chest pain, heart attack, and even sudden cardiac death [9-12]. The presence of mobility predicts death and nonfatal embolization, and the surgical resection is recommended in the presence of mobility and after any embolization [12].

Our patient was an asymptomatic young female without any associated cardiac defect. However, the mass was highly mobile and transthoracic and transesophageal echocardiography was not helpful to exclude FE. Surgical resection was performed to make a definitive diagnosis and prevent obstruction or embolization.

Conclusion

In conclusion, although ATV is generally observed with complex cardiac defects, it can be an isolated finding in asymptomatic adults. Due to the low number of case reports, it is unclear whether the mobility or size of the ATV is associated with an increased incidence of embolization, as in PF.

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