Double-chambered right ventricle
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Citation

Abstract
We describe a case of a double-chambered right ventricle with an intact ventricular septum.

CASE REPORT
A 21-year-old male was admitted to our hospital with dyspnea. Transthoracic echocardiography and cardiac catheterization revealed a infundibular pulmonary stenosis with a pressure gradient of 80 mm Hg. Cardiac catheterization pointed out no additional pathology (Figure 1).

Figure 1
Figure 1

He was operated under endotracheal general anesthesia and in supine position. Perioperatively, it was revealed that infundibular region and pulmonary valve were completely normal; whereas inflow region of the right ventricle showed stenosis. (Figures 2 and 3).
Double-chambered right ventricle

Hypertrophied muscle bundles at the stenotic region of the pulmonary inflow were resected (Figure 4).

21 mm Hegar dilator could be passed easily through resected area which indicated that adequate dilation was obtained (Figure 5).

Incisions of right ventriculotomy and pulmonary artery were closed primarily (Figure 6).

The post-operative course was uneventful. Histologic examination revealed cardiac muscle cell hypertrophy and disorganization. Postoperative echocardiographic data confirmed complete correction of the lesion.
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COMMENTS

Double-chambered right ventricle is a rare congenital heart disease. The presence of anomalous muscle bundles may produce a pressure gradient between the inflow and outflow portions of the right ventricle, thus resulting in double-chambered right ventricle bearing troublesome clinically in its diagnosis.

Accurate determination of the severity of the stenosis and the anatomy of the obstructing lesion are important in devising a treatment strategy. Multiplane transesophageal echocardiography provides excellent views of an anomalous muscle bundle in the right ventricle, which differed from a moderator band by its insertion site on the right ventricle.

Radical correction for two-chambered right ventricle in Shimizu et al study was classified into 3 groups according to the method used for releasing the stenosis in the right ventricle; Group A: resection of thickened fibrous tissue; Group B: resection of the fibrous tissue and abnormal muscular bundles; and Group C: resection of the fibrous tissue and abnormal muscular bundles with patch-enlargement of the right ventricular outflow tract. Generally, resection of the hypertrophic muscle bundles practically eliminated the obstruction.

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References

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