Partial anomalous pulmonary venous return with sinus venosus type of atrial septal defect
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Citation

Abstract
A 19 - year- old woman presented to our hospital with exertional dyspnea and sinus tachycardia. Her chest X-ray demonstrated cardiomegaly with prominent right atrium, right ventricle and dilated pulmonary vessels (Figure 1).

Figure 1
Figure 1

Transthoracic and transoesophageal echocardiography showed dilatation of the right atrium and the right ventricle. The patient was diagnosed as sinus venosus type of atrial septal defect with partial anomalous pulmonary venous return. The same pathology was diagnosed also with the catheter based angiography. Qp/Qs ratio was 2. Blood oxygen saturations were 82.4% in superior vena cava, 93.1% in right ventricle, 98.9% in left ventricle.

She was operated under endotracheal general anesthesia and in supine position. During surgical exploration we determined three abnormally draining pulmonary veins into the superior vena cava (Figure 2).

Figure 2
Figure 2

We explored also a sinus venosus type of atrial septal defect (Figure 3).
Partial anomalous pulmonary venous return with sinus venosus type of atrial septal defect

We created a patch that closes the defect and also redirects blood from the anomalous pulmonary vein to the left atrium (Figure 4).

Figure 3

Figure 3

Comments

Partial anomalous pulmonary venous return (PAPVR) is a congenital anomaly in which one or more, but not all, of the pulmonary veins are connected to a systemic vein or to the right atrium. It is often difficult to detect the pulmonary vein confluence or the combined congenital anomaly by echocardiography and catheter based angiography.

PAPVR's account for 0.5% of the congenital cardiac defects and are commonly associated with atrial septal defects (ASD). If an ASD is present, about 10% of patients will have a pulmonary venous abnormality. About 90% of sinus venosus defects and about 25% of ostium secundum defects present with PAPVR. Clinical symptoms of PAPVR are similar to those triggered by ASDs with normal PV connection. Since the majority of patients with PAPVR are asymptomatic, complications of PAPVR result from pulmonary infection, dilation of the right atrial septal defect or dilation of the right atrium and ventricle.

Eelective surgery is favoured with patch closure of the ASD and redirection of the abnormally draining PV into the left atrium. After this procedure long-term survival is excellent.

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References

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