

A case of ventricular septal aneurysm producing right ventricular outflow obstruction in an adult patient

Erişkin bir hastada sağ ventrikül çıkış yolunda darlığa neden olan bir ventriküler septal anevrizma olgusu

Yılmaz Güneş, MD, Cennet Erbaş, MD, Barış Ökçün, MD, Erhan Babalık, MD

Institute of Cardiology, İstanbul University, İstanbul, Turkey

Introduction

Aneurysm of interventricular membranous septum is rarely detected in adult population. It has been suggested that aneurysm formation plays a role in spontaneous closure of ventricular septal defects (1, 2). Complications such as rupture, obstruction, endocarditis or thromboembolisms are unusual. Here we report a case of ventricular septal aneurysm with obstruction of right ventricular outflow tract.

Case Report

A 39-year old male patient was referred to our clinic for shortness of breath on moderate exertion. Clinical examination revealed a blood pressure of 120/80 mmHg, heart rate of 80 beats/min, a grade 2/6 systolic murmur along the second intercostal space. There was a moderate cardiomegaly in chest rhoentgenogram. Electrocardiography showed sinus rhythm and normal axis. Transthoracic two-dimensional echocardiography revealed enlargement of right cardiac chambers. Co-

lor flow and Doppler examination showed a subpulmonic stenosis with 50 mmHg gradient across pulmonary valve. There was a lack of continuity between aorta and the interventricular septum mimicking ventricular septal defect. Transesophageal echocardiography showed a large aneurysm extending from perimembranous septum towards right ventricular outflow tract (Fig. 1 and 2). Right and left heart catheterization and coronary angiography were performed. Pulmonary artery pressure was 20/10 mmHg, right ventricular pressure was 70/5 mmHg, with a 50 mmHg gradient across right ventricular outflow tract. Left ventriculography demonstrated an aneurysm of membranous septum bulging into the right ventricular outflow tract. We suggested surgery, but the patient refused the operation.

Discussion

The aneurysm of the membranous portion of the ventricular septum has been an interesting and controversial subject for many years. It was first described by Laennec in 1826 (3).

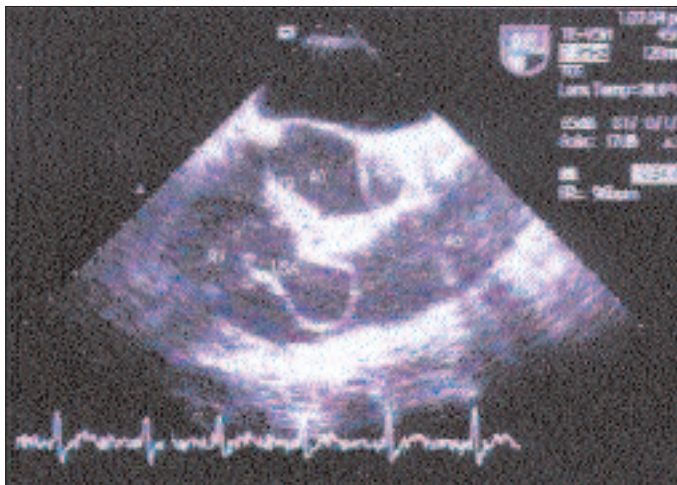


Figure 1. Transesophageal view of ventricular septal aneurysm bulging into the right ventricular outflow tract.

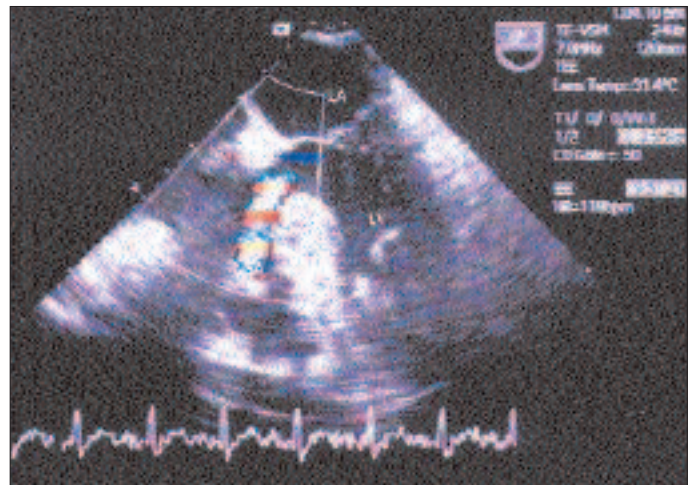


Figure 2. Transesophageal color flow imaging of blood flow in the ventricular septal aneurysm.

With the availability of heart catheterization the incidence of ventricular septal aneurysm (VSA) have become higher and with the aid of transesophageal echocardiography the diagnosis can be established noninvasively. It may be an isolated finding or may occur with other cardiac malformations, particularly with ventricular septal defect, primum type atrial septal defect, aneurysms of the sinus of Valsalva, malformations of aortic or pulmonary valves and subaortic stenosis. It may be found in approximately one fifth of membranous ventricular septal defects (4). It may be marker for a VSD that is likely to become smaller and close in future (1, 2). A hemodynamically large membranous ventricular septal defect (VSD) in infancy progresses to a functionally smaller defect with aneurysm formation later in childhood. Aneurysm formation functionally reduces the VSD size, but it has the potential consequence of promoting tricuspid insufficiency, aortic valve prolapse, right ventricular outflow tract obstruction, rupture, thromboembolism and bacterial endocarditis (4, 5). Therefore, it's recommended that VSA should be resected completely and the defect produced closed with a patch in order to prevent further enlargement and consequent complications even if there are no cardiac symptoms. Due to refusal of operation in the pre-

sented case, the definite diagnosis couldn't be established. But, transesophageal echocardiography shows existence of ventricular septal aneurysm clearly.

References

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