NADİR GÖRÜLEN BİR SİNÜS VALSALVA ANEVRİZMASI: CERRAHİ TEDAVİ VE BİYOLOJİK GLUE KULLANIMI (Vaka Takdimi)

AN UNUSUAL CASE OF SINUS VALSALVA ANEURYSM: SURGICAL TREATMENT AND THE USING OF BIOLOGICAL GLUE (Case Report)*

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Özet

48 Yaşında bir erkek hastada sağ koroner sinustan kaynaklanan sol ventrikül outflow tractını komprese ederek interventriküler septuma kadar büyüyen nonrupture dev bir Sinus Valsalva Anevrizması (SVA) ve aort yetersizliği vardı. Aynı zamanda sol koroner sinuste de henüz yeni gelişmeye başlamış ikinci bir anevrizma ağzı mevcuttu.Hastaya operasyondan 3 yıl önce kalıcı pace-maker takılmıştı. Açık kalp tekniği ile ameliyata alınan hastada anevrizma kesesi biyolojik glue ile yapıştırıldıktan sonra anevrizma ağzı dacron patch ile kapatıldı. Sol koroner sinüsteki defekt, primer kapatıldı.Aort kapak replasmanı yapıldı. Post-operatif yapılan ekokardiografide anevrizma kesesinin tamamen kollabe olduğu görüldü.Aort anevrizmaları ve multipl ventriküler septal defekt tamirlerinde kullanılan biyolojik glue kullanımının nonrüptüre sinüs valsalva anevrizmalarında kese boşluğunun kapatılmasında iyi bir alternatif olacağı düşünüldü.

Anahtar kelimeler: *Sinüs, Valsalva, Anevrizma, Biyolojik Glue*

Summary

A 48-year-old man has got a big Sinus Valsalva Aneurysm (SVA) originating from right coronary sinus, growing till interventricular septum by compressing left ventricle out-flow tract, and aortic insufficiency. In addition, a second aneurysm site recently processed was seen in left coronary sinus . The pace-maker had been placed to the patient three years before operation. Following open heart surgery for the patient, the adhesion of the aneurysm was carried out by gluing on aneurysm pouch with biological glue and later the distal aneurysm site was closed with dacron patch. A defect on left coronary sinus was covered. Aortic valve replacement was performed. Postoperative echocardiography showed that the aneurysm pouch disappeared completely. It was thought that using the biological glue in mending the aortic aneurysm and multiple ventricular septal defect might be a good alternative covering pouch space in nonruptured SVA.

Key words: *Sinus Valsalva Aneurysm, Biological Glue.*

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Introduction

SVA has long been known as a rare disease. The disease may be originated from trauma, infections and degeneration, and may be congenital (1,2). Although degenerative SVAs are together with each of three aortic sinus dilation; congenital SVAs display characteristic feature (3). SVAs are more often seen in right coronary sinus than in non coronary sinus and rarely in left coronary sinus. SVAs generally grow towards intracardiac spaces, but rarely extra cardiac spaces.

Case Report

The patient (a 48-year-old man) was admitted to Cardiology Clinics with complaints of chest pain and dyspne. Permanent endocardial pace-maker had placed to the patient three years ago due to A-V block. Arterial pressure was 160/60 mmHg, pulse was 70/min., 2/6 diastolic murmur heard in left sternal border and 2/6 systolic murmur in aortic focus. There was cardiomegaly in teleradiogram. The echocardiographic examination and cardiac catheterization werw confirmed 3rd degree aortic insufficiency and SVA (Fig.1,2). The patient, to whom operation was thought, was admitted to Thoracic and Cardiovascular Surgery Department, and subjected to open heart surgery. After median sternotomy and aortic and bicaval canulation, extracorporeal circulation (ECC) was begun. Cardiac arrest was obtained with crystalloid cardiplegia after pace-maker was ceased, and body temperature was reduced to 28^{o}C . It was observed that leaflets were thickened and became fibro-calcific. Gigantic aneurysm pouch which originated

Fig.1. *The Appearence of Sinus Valsalva Aneurysm and Aortic Insufficiency in Retrograd Aortagram and the Electrode of Endomyocardial Pace-Maker.*

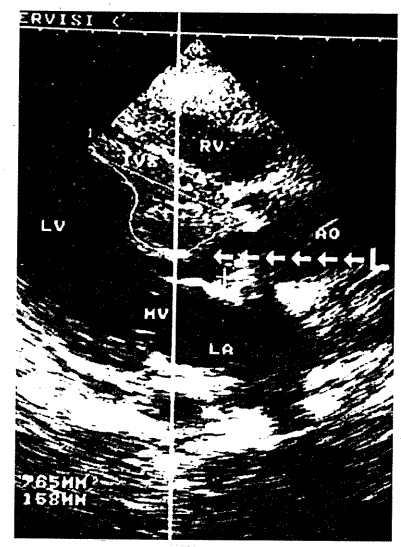

Fig.2. *Preoperative chocardiogram.*

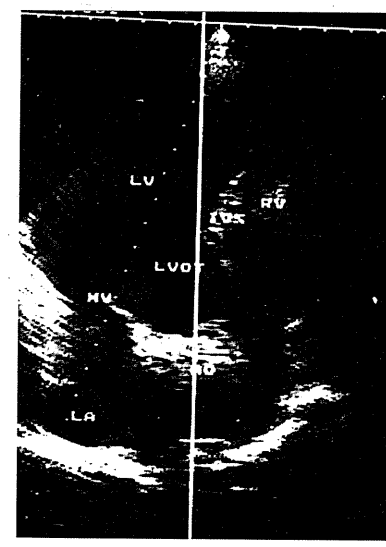

Fig.3. *Postoperative Echocardiogram (Aneurysm Pouch Disappeared and Aortic Valve Prothesis Functions Are Normal).*

from right coronary sinus and made narrow left ventricular outflow tract growing toward to interventricular septum was found out. In addition to this, aneurysm side having started to grow was seen in left coronary sinus. The Gigantic aneurysm's walls were amalgamated by putting the biological glue (gelatine-resorcine-formol) (Cardial®) within the pouch, and the pouch mouth was closed up with dacron patch. The orifice in left coronary sinus was stitched with the support of dacron. Aortic leaflets were resected and 23 mm Sorin® mechanic valve prosthesis was implanted. The patient was heated, and at this stage pace-maker was restarted. After required preparations canulae were removed. Postoperative complication did not occur. In echocardiographic control, aneurysm pouch was observed to have disappeared completely and mechanic aortic valve functions were normal (Fig.3). The patient has been no symptoms for 28 months.

Comment

Clinical symptoms of patients with SVA can be changed from the minimal aortic insufficiency to congestive heart failure which develops through opening heart spaces. SVAs are congenital or acquired (1,2). Taguchi et al. have divided aneurysms into six main groups and sixteen subgroups (4). Aneurysms rupture is observed in the following proportions: 70% to right ventricle, 25 % to right atrium and, the remaining to left ventricle, left atrium and extracardiac spaces (5), Although Tim et all suggested that there are cases affecting left ventricle outflow, in our case we have not come across a gigantic aneurysm which originates from right coronary sinus and develops to septum by suppressing left outflow (6). It has however been reported that gigantic aneurysms suppress the left coronary artery proximally that leads to acute myocardial infarction. To the best of our knowledge, we were not aware of any previously published case of gigantic aneurysm which originates from right coronary sinus, progresses up to the interventricular septum, and supresses left ventricul outflow. Our case had not only the above features, but also a small aneurysm in left coronary sinus. This case was thought to be etiologically atherosclerosis due to replacing permanent pace-maker, aortic dilatation, aortic insufficiency and existing aneurysm in both sinuses. The similar disorders can be seen in patients with bacterial endocarditis and Rheumatic fever (1). Generally, congenital aneurysms are diagnosed in the event of complications (rupture, intracardiac fistula, obstruction of outflow tract and arrhytmias depending upon broaden septum) (1,5,7). Extracardiac opening of aneurysms is not common. There are various suggestions with respect to surgical indications. If no complications are seen some do not advise surgery since death is rare in these cases. Howewer, surgical intervention is advised in selective conditions (7). Sakakibara et all postulated that survival is only one year after

rupture, whereas Sawyers et all give it between 3 and 9 years (8,9). Preferable treatment of aneurysm is known to be cover up with patch by aortotomy or both by aortotomi and opening related heart space (1,5,7). In our case treatment has been done by means of aortotomy. Biological glue also used in closing up multiple VSD, aortic aneurysm and allograft implantation (10,11,12) , has been employed for the purpose of adherension of aneurysm walls and preventing decolation. In echocardiogram done following operation, aneurysm pouch did not appear. As a result, we thought that using the biological fibrin glue is an alternative method for aneurysm wall adhesion performed in non ruptured aneurysm of sinus valsalva before closing up aneurysm mouth.

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