OLGU SUNUMU

SURGICAL TREATMENT OF A PULMONARY ARTERY ANEURYSM

PULMONER ARTER ANEVRİZMASININ
CERRAHİ TEDAVİSİ

Mustafa KARAÇELİK
Cengiz SERT
Namık Selim ÖZENÇ
Hakan KÖKSAL
Yalçın GÜVENLİ
Cengiz ÖZBEK

ÖZET

Bu olgu sunumunda; 46 yaşındaki erkek hastada, ana pulmoner arter ve dallarının seyrek görülen poststenotik gelişmiş anevrizması bildirilmektedir.Cerrahi girişim ile, ana pulmoner ve sol pulmoner arter rezeksiyonu sonrası arter devamlılığı 28mm Dakron tubuler greft ile sağlandı.Sağ pulmoner arter grefte reimplante edildi. Hasta evine sorunsuz olarak gönderildi.

Anahtar Sözcükler: Aorta ve Büyük Damarlar, Pulmoner Arter Anevrizması

SUMMARY

We would like to report a rare case of post-stenotic aneurysm of the pulmonary trunk and its left branch in a 46-year-old male. Through a surgical approach the pulmonary trunk and its left branch were excised and reconstructed using a 28mm Dacron tube graft; the right pulmonary branch was then reimplanted on the right side of the tube. The patient was discharged from hospital uneventfully.

Keywords: Aorta and Great Vessels, Poststenotic Aneurysm ,PulmonaryArtery

Tepecik Research and Training Hospital, İzmir-TURKEY
Department of Cardiovascular Surgery
(Assoc.Prof. C. Özbek, Dr.C. Sert, Dr.N.S. Özenç, Dr.H. Köksal, Dr.M. Karaçelik)
Department of Anesthesiology (Dr.Y. Güvenli)
Correspondence: Dr. Mustafa Karaçelik

INTRODUCTION

Aneurysms of the main pulmonary artery are rare and may be idiopathic (1) Dilatation of the main pulmonary artery may occur in patients with right ventricular outflow obstruction as poststenotic dilatation, but aneurysms exceeding 50 mm in diameter are rare, and they are due to pulmonary valvular stenosis (2). Or the result of several pathologies, such as congenital cardiac anomalies associated with pulmonary hypertension, pulmonary valve stenosis, Behcet's disease and generalized vasculitis, infections and trauma (3). We believe that surgical approach should be recommended because of the risk of rupture of the thin arterial wall.

CASE REPORT

We report a case of post-stenotic aneurysm of the pulmonary trunk and its left branch in a 46 year-old man. The initial diagnosis of pulmonary valve stenosis was made when the patient was 24 year-old accidentally. He underwent a pulmonary balloon valvuloplasty at 26 year-old and following this procedure his life contuniued normally without any symptoms. Recently, the patient was referred to our hospital because of dyspnea and decrease in exercise tolerance; therefore a MR angiography was performed, showing an aneurysm of the pulmonary trunk and of its left branch (56mm x72mm), a right pulmonary artery with normal dimensions and a dilatation of the right ventricle, without ventricular septal defect or pulmonary veins anomalies. Transthoracic echocardiography confirmed the dilatation of the pulmonary artery and revealed an associated moderate commissural stenosis of the pulmonary valve (mean gradient 28 mmHg), with a satisfactory left ventricle function (EF 62%). The coronary arteries do not have to contain an angiographically severe stenosis. The clinical findings included genital ulcers, uveitis, arthritis, vasculitis/retinal vasculitis were not detected at our patient and the pathergy test was negative while researching a diagnosis of Behcet's Disease. Informed consent was obtained from patient and surgery was performed through median sternotomy (Fig.1) and under hypothermic cardiopulmonary bypass (CPB). After opening the pulmonary artery on its anterior face the pulmonary valve did not appear stenosed, without a symphysis of the three commissures. The nonstenotic valve was then tested with a 25mm diameter Hegar probe. The pulmonary aneurysm was resected a few millimetres above the commissures. The left pulmonary artery branch was then sectioned a few millimetres below the origin of the lobar branches and the distal extremity of the tube graft was sutured on the distal stump. The right pulmonary artery branch was reimplanted on the right lateral face of the Polyethylene terephthalate (Dacron®) tube graft with a termino-lateral 5-0 polypropylene suture (Prolene®) running suture (Fig.2) and finally a 28mm Polyethylene terephthalate (Dacron®) tube graft was implanted to pulmonary trunk with a 5-0 polypropylene suture (Prolene®) running suture (Fig.3). The CPB and aortic cross-clamping times were 120 and 85 minutes, respectively. The patient was weaned from CPB without inotropic support. The postoperative period was uneventful and the patient was extubated on the second hour of post-operative period. The intensive-care unit stay was 1 day, the patient was discharged on the fifth postoperative day uneventfully and there were no complications within 3 month follow-up.

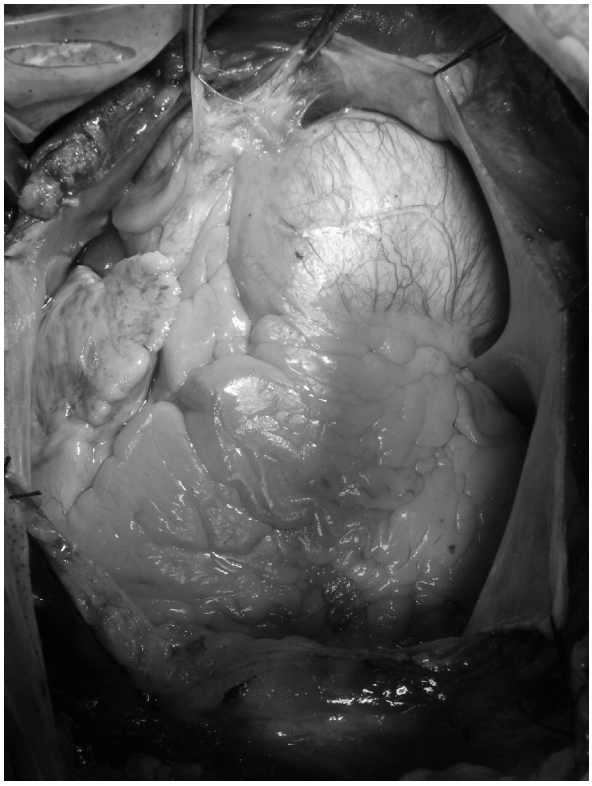

Figure 1. Appearance of the aneurysmatic pulmonary artery

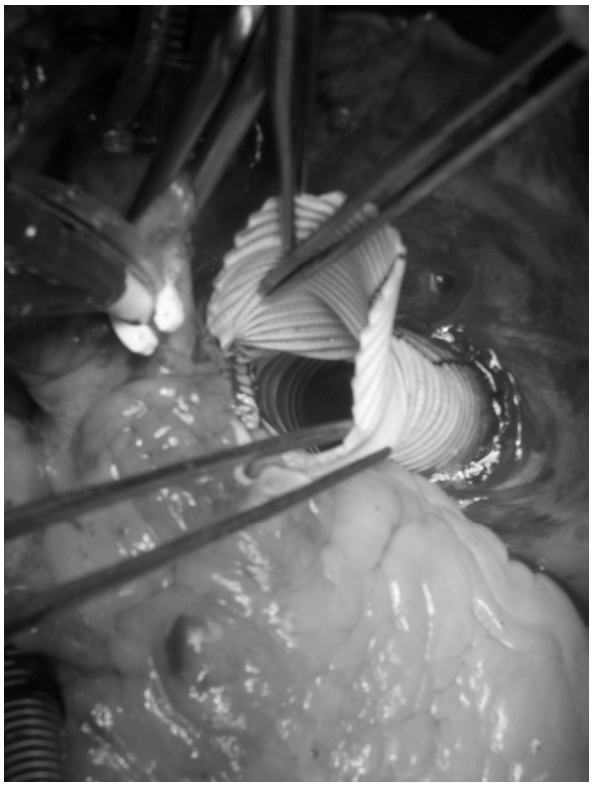

Figure 2. The right pulmonary artery branch was reimplanted on the right lateral face of the Dacron® tube graft

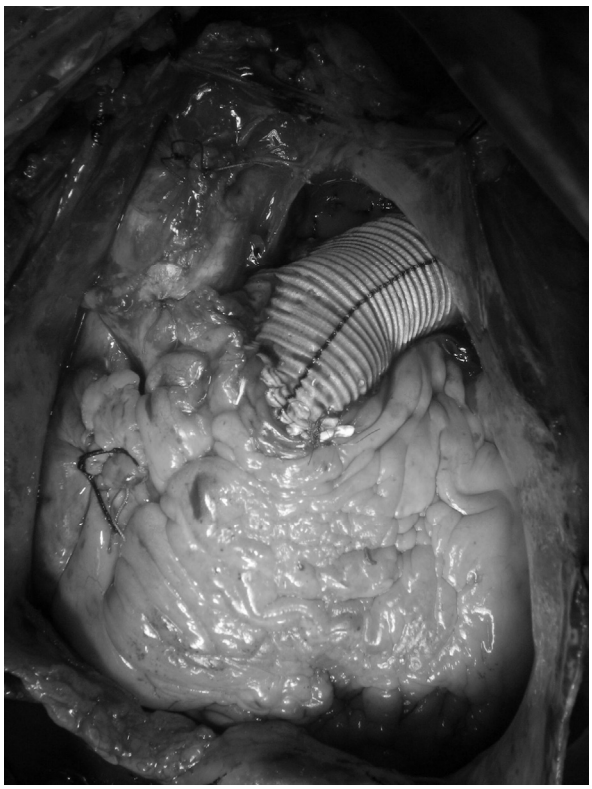

Figure 3. Dacron® tube graft was implanted to pulmonary trunk

DISCUSSION

A conservative treatment for this type of lesion may be advocated when the patient has no symptoms and there are no associated congenital lesions, right ventricular dysfunction, significant pulmonary arterial hypertension or left to right shunt (4). In the other cases, Vistarini et al explained that early surgical repair should be the treatment of choice because of the high risk of vessel dilatation and possible rupture, which may lead to death(5). We report a successful surgical repair in a post-stenotic form of pulmonary artery aneurysm. Preservation of the pulmonary valve functions while performing the repair of the aneurysm is an important aspect of the surgical treatment.(6) Inspite of technical difficulties due to the distal suture of the tube graft on a very thin vascular wall the operation was ended successfuly with using Composed of purified bovine serum albumin and glutaraldehyde (Bioglue®) to maintain proper hemostasis. The critical size of a pulmonary aneurysm associated with a high risk of rupture remains unknown, but according to Vistarini et al, even if the patient is asymptomatic, replacement of the whole dilated pulmonary artery is recommended, especially when congenital malformation of the valve and intrinsic arterial wall weakness lead to vessel wall remodelling (5). Our case demonstrated that pulmonary artery aneurysm is uneventfully resectable and surgically correctable disease.

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ADDRESS FOR CORRESPONDENCE

Mustafa Karacelik, MD
Corresponding Author
Department of Cardiovascular Surgery,
Tepecik Research and Training Hospital
35000, Izmir, Turkey
Tel: 90 232 4696969-ext 3132
Fax: 90 232 3647191
E-mail: mkaracelik@hotmail.com