



Successful Repair with Aorto-Patch Plasty for Supra-Valvular Aortic Stenosis

Eyupserhat Calik, Umit Arslan and Bilgehan Erkut*

Department of Cardiovascular Surgery, Atatürk University, Turkey

Keywords

Supravalvular aortic stenosis; Aortic disease; Surgical therapy

Clinical Image

Supra-valvular aortic stenosis is a rare congenital disease that characterized by narrowing above the sinotubular junction, and causes left ventricle hypertrophy. A 12-year-old boy was admitted to our clinic with exercise intolerance, angina, and syncope complaints and with the diagnosis of supravalvular aortic stenosis. Left ventricle was enlarged in telecardiogram; there had been electrocardiographic findings of left ventricle hypertrophy. Mean pressure gradient was 70 mmHg and maximum gradient 112 mmHg in cardiac catheterization. We successfully treated a traditional diamond shaped patch aortoplasty was used to relieve supra-valvular aortic stenosis. Pressure gradients were almost disappeared postoperatively with good surgical result. He was discharged after 9 days.

Many different surgical techniques have been developed to correct supravalvular aortic stenosis as diamond-shaped and pantaloons-shaped patch techniques, single-patch augmentation of the non-coronary sinus, extended aortoplasty of the non-coronary and right coronary sinuses using a pantaloons patch, a three-patch repair of all three aortic sinuses [1,2]. These techniques provides symmetric reconstruction of the aorta with good postoperative results and no gradient across aortic valve and aortic valve insufficiency remains, providing excellent long-term relief of localized supravalvular gradients and preservation of aortic valve competence [3].

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*Correspondence:

Bilgehan Erkut, Department of Cardiovascular Surgery, Atatürk University, Erzurum, Turkey, Tel: 00905337451006;

E-mail: bilgehanerkut@yahoo.com

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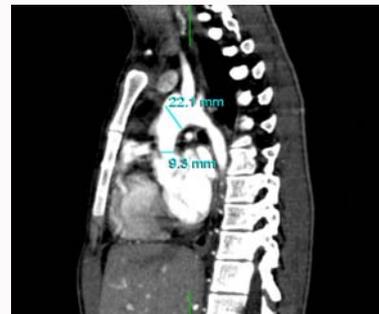


Figure 1: Multiplanar reconstruction image shows the diffusely stenosed ascending aorta in computed tomographic angiograms.

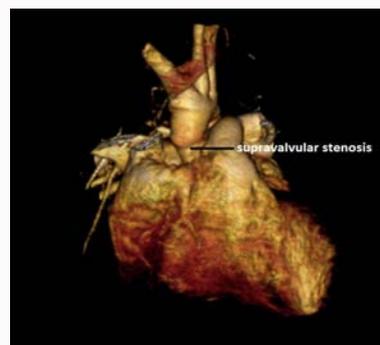


Figure 2: CT angiogram with 3D reconstruction showing the supravalvular aortic stenosis.



Figure 3: Supravalvular aortic stenosis during resection in operation.

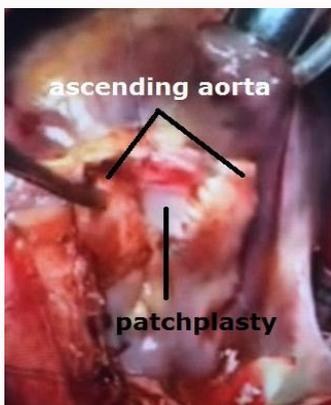


Figure 4: Image during operation of diamond shaped patch aorto-plasty with pericardial patch.

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