Aortic Root Valve-Sparing Replacement after Ross Procedure due to Late Root Dilatation

Vladimir Uspenskiy*, Daria Zavarzina, Alexey Maystrenko and Mikhail Gordeev
Department of Cardiac Surgery, Almazov National Medical Research Centre, Russia

Clinical Image

The Ross procedure is an alternative to mechanical aortic valve replacement. Late autograft dilatation is common after the Ross procedure [1,2]. Most common redo operations are composite root replacement with mechanical or biological valved conduit, and mechanical aortic valve replacement [3]. A possible option is a preservation of failed pulmonary autograft [4]. A 27-year-old woman who underwent Ross procedure for aortic insufficiency at age 13 was referred for 54 mm pulmonary autograft aneurysm (Figure 1A). Echocardiography revealed mild aortic regurgitation,

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Figure 1: A) Preoperative computed tomography angiography shows dilatation of the aortic root and ascending aorta; B) intraoperative view of mobilized autograft leaflets and coronary buttons; C) intraoperative view after autograft reimplantation; D) computed tomography angiography 3 months after surgery shows normal view of reimplanted aortic root.

Figure 2: (A) Intraoperative image; (B) Preoperative CT-scan; (C) Final type of operation image (D) Control CT-scan after 3 months.
normal size and function of the left ventricle. After mediastinal reentry, establishing of cardiopulmonary bypass and cross-clamping, autograft sinuses were excised. Autograft valve was intact with mild symmetrical cusp prolapse (Figure 1B). We performed root replacement and autograft valve reimplantation with 28 mm Valsalva graft (Figure 1C). After weaning from cardiopulmonary bypass echocardiography showed normal aortic leaflet motion with trivial regurgitation. The postoperative course was uneventful (Figure 1D and 2).

References


