

The giant aortic root aneurysm related to bicuspid aortic valve treated with valve-sparing operation

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A 30-year-old patient was admitted with dyspnea and severe chest pain radiating to the left scapula. Transesophageal echocardiography (TEE) showed bicuspid aortic valve (BAV) with severe eccentric regurgitation jet along anterior mitral leaflet (Fig. 1A), aneurysm of the root and ascending aorta with maximum diameter of 130 mm without dissection (Fig. 1B). The aortic ring was 34 mm, left ventricular ejection fraction (EF) 50% and end-diastolic volume (EDV) 280 mL. Angio-computed tomography showed an enormous aneurysm (130 × 110 mm, Fig. 1C) involving aortic root and the ascending aorta with normal 34 mm aortic arch. Urgent aortic valve sparing operation modo David was performed. TTE on post-op

7 showed no aortic regurgitation, aortic root of 36 mm (Fig. 1D, E, F), EF 30% and EDV 206 mL. Subsequently the patient was discharged home. Six months later TTE showed no aortic regurgitation, improvement of EF to 60%, and EDV reduction to 180 mL. Despite the large dilatation of the aortic root and aortic ring, the valve leaflets retained their original structure, which allowed for aortic valve sparing. The key element of the operation was to select the right size of the aortic prosthesis, in order to restore physiological relationship between the aortic orifice and aortic cusps. This case demonstrated that the size of aortic root alone cannot constitute a contraindication to the valve sparing procedure.

Conflict of interest: None declared

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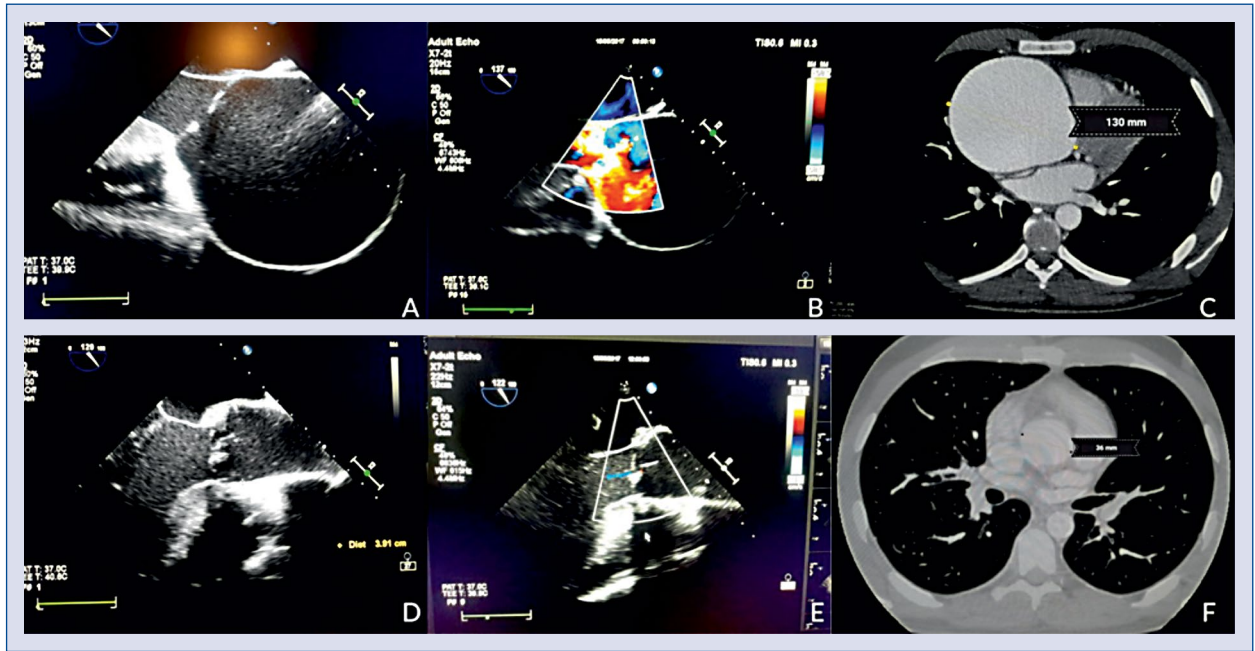


Figure 1. Preoperative transesophageal echocardiography (TEE) showing 130 mm aortic root and ascending aorta aneurysm (A) and severe aortic regurgitation (B); C. Preoperative angio-computed tomography (angio-CT): 130 mm aortic root and ascending aorta aneurysm. Postoperative TEE showing the root and ascending aorta (D) and trace aortic regurgitation (E); F. Postoperative angio-CT showing the aortic root.