Case Presentation

A 50-year-old severely obese man was admitted to our Unit for BAV associated with TAA required surgical management. On admission, Transesophageal Echocardiography (TEE) showed a type 2 BAV with right and left cusp fusion, an enlarged aortic root (44 mm) and sino-tubular junction (41 mm), a TAA (57 mm), slight aortic insufficiency with eccentric jet directed towards the anterior mitral leaflet (Figures 1A and 1B). Chest X-ray, unexpectedly, uncovered a RAA (Figure 1C), and therefore a CT scan was performed. The CT scan showed: a fusiform TAA (57 mm × 52 mm) with a longitudinal extension of about 8 cm associated with a type I RAA, left subclavian artery with the emergency from the third proximal of descendent aorta, common left carotid artery with anterior course in its proximal and middle tract, separate origin of right subclavian artery and right common carotid artery (Figures 1D). The leaking BAV and TAA were repaired with a David reimplantation technique (Figure 2A and 2B) using a 30 mm Dacron graft (MAQUET Intervascular). A good result was achieved with resolution of aortic regurgitation as shown by the post-operative TEE.

Discussion

In patients with BAV aortic regurgitation related to dilatation of the ascending aorta reimplantation technique seems to be a good solution even in more complex cases associated with RAA. This surgical technique must be adapted to take into account the preexisting symmetry or asymmetry of the native BAV [4]. The first step when using this graft is to fix the height of the native mitral leaflet (Figures 1A and 1B). The leaking BAV and TAA were repaired with a David reimplantation technique (Figure 2A and 2B) using a 30 mm Dacron graft (MAQUET Intervascular). A good result was achieved with resolution of aortic regurgitation as shown by the post-operative TEE.

Keywords: Bicuspid aortic valve; Right-side aortic arch; TEE
of the corresponding sinuses, even when a gentle downward force is applied with a forceps as to simulate high diastolic pressures [5]. Our approach is based on the principle that BAV repair needs to address the cusps, functional aortic annulus and the ascending aorta as one functional unit. Root replacement in this setting is performed not only to prevent the potentially fatal complications of aortic dissection and rupture but also to stabilize the repair procedure. In our opinion aortic valve reimplantation techniques is safe and reproducible in BAV patient with dilated aortic root and normal cusp. It is a very complex procedure that can be performed by expert surgeons. Anyway, it can be realized also in challenging and rare cases, such us in BAV patients with TAA and RAA.

References


