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Letter to the Editor

The use of composite stentless valves with graft extension for the treatment of ascending aortic aneurysms

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We read with interest the article from Dr Byrne and his associates [1] concerning the use of composite stentless valves with graft extension for combined replacement of the aortic valve, root and ascending aorta. As the authors have kindly pointed out, our first article concerning this technique was published in 1999 [2]. We have used this technique on well over 40 patients with this pathology since 1996 and our latest experience was presented during a meeting in Europe [3]. We believe there are some important technical details that have to be addressed.

In our experience distal aortic cannulation was used only for limited aneurysms with a fine distal neck. However, in most of the cases we had to use femoral or axillary artery cannulation and perform an open distal anastomoses under circulatory arrest, which in our experience was more feasible.

An important concern should be the length of the Hemashield graft. The anastomoses lines between the Freestyle and the Hemashield graft as well as the left ventricular outflow and the Freestyle should be tension free. The graft should not be short, otherwise this can cause excessive tension on the suture line and end up with late dehiscence and false aneurysm formation. The quality of the porcine aortic wall can be less than ideal in some valves and we have adopted to incorporate a strip of pericardium in the suture line between the hemashield and Freestyle to prevent this complication.

Late aortic wall calcification is a concern. However, our follow up in two valves up to 5 years [4] has encouraged us that this would not be a problem, at least for the mid-term.

We do not share the opinion of the authors on the feasibility of inserting a stented valve within the Freestyle valve when a reoperation becomes necessary. Although we did not have to reoperate on any of these cases so far, we have experienced two reoperations with the Edwards Prima valve which we had used previously and we had to perform a re-root replacement since it was not feasible to implant another valve within the conduit. The main problem was the suture line between the stentless valve and the LVOT which had become extremely calcific and it was not possible to put stitches through this tissue. Even if this is possible, then you have to implant a stented valve that is one to two sizes smaller which may not be ideal for the patient.

In conclusion, we agree with the authors that this is a reproducible technique that is advisable for patients with this pathology that can not use anticoagulation. However, until long term results with these valves are available, we believe that this technique should be reserved for patients over 65 years of age.

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