Stentless aortic bioprostheses: their role in the treatment of aortic endocarditis should not be underestimated

J. Daniel Robb and O. Wendler

Department of Cardiothoracic Surgery, King’s College Hospital, King’s Health Partners, London, UK

* Corresponding author. Department of Cardiothoracic Surgery, King’s College London, King’s College Hospital, Denmark Hill, London SE5 8JH, UK. Tel: +44-203-2994341; fax: +44-203-2994343; e-mail: olaf.wendler@nhs.net (O. Wendler).

Received 30 April 2012; accepted 26 June 2012

Keywords: Stentless • Aortic • Heart valves • Bioprostheses • Endocarditis

We read with great interest the comprehensive review article of Funder [1] on the clinical and experimental data surrounding the use of stentless aortic bioprostheses and fully agree with his conclusions. There is no doubt that they are ideal substitutes in patients with small aortic roots to prevent patient-prosthesis mismatch. In this context, they should be implanted in a ‘full-root’ type of technique to minimize the postoperative aortic regurgitation that may occur due to distortion of the prosthesis [2] and to facilitate both prosthesis over-sizing and the optimization of haemodynamic results [3].

However, we were surprised that Funder did not comment on the value of stentless valves in the context of aortic endocarditis, particularly in patients with root abscesses and prosthetic valve endocarditis. Homografts have been the gold standard for valve and root replacement in aortic endocarditis for a long time.

Conflict of interest: Dr Benussi has a financial relationship with St. Jude Medical Inc., AtriCure Inc., Medtronic Inc., CryoCath Inc., and Edwards Lifesciences Inc. The other authors report no conflicts.

REFERENCES

Although they result in excellent haemodynamics and a low incidence of re-infection after surgery, the need for homograft-related reoperation should not be underestimated and has been reported to be around 20% at 2 years, most often due to aortic regurgitation [4]. In addition, in these patients, for whom surgery is most often urgent, availability is limited, leading to delay in treatment.

In 2003, Siniawski et al. [5] reported on their results using stentless bioprostheses in the setting of complex aortic endocarditis and made a comparison with their experience using homografts. Early mortality, freedom from re-infection and postoperative haemodynamics were not different between the two groups. However, they saw additional benefits of the stentless prosthesis, in that the surgery itself has a more standardized and therefore possibly easier technique. Moreover, limited availability, which may result in delayed surgery using homografts, is not an issue with stentless bioprostheses.

If stentless valves are equivalent early after surgery, the question remains of how they compare with homografts in the longer term? Yacoub et al. [6] recently reported the outcomes of a prospective randomized trial including aortic root replacement using Freestyle™ stentless bioprostheses (Medtronic Inc., Minneapolis, MN, USA) and homografts. Over a median follow-up of 7.6 years, a significantly higher freedom from valve dysfunction in the stentless group (86 vs 37%) was noted. Consequently, reoperations due to structural valve degeneration were more common after homograft implantation (0 vs 10%).

We conclude therefore, that the early outcome of stentless bioprostheses is comparable with homografts in patients suffering from aortic valve endocarditis. As long-term durability and freedom from reoperation are improved using stentless bioprostheses, and because their availability is not restricted, they are ideal substitutes, particularly in patients with complex aortic valve endocarditis.

Conflict of interest: none declared.

REFERENCES


LETTER TO THE EDITOR RESPONSE

Reply to Robb and Wendler

Jonas Amstrup Funder*

Department of Cardiothoracic and Vascular, Aarhus University Hospital, Aarhus, Denmark

* Corresponding author. Department of Cardiothoracic and Vascular, Aarhus University Hospital, Brendstrupgaardvej 100, 8200 Aarhus, Denmark. Tel: +45-89-495481; fax: +45-89-496016; e-mail: funder@ki.au.dk (J.A. Funder).

Received 19 June 2012; accepted 26 June 2012

Keywords: Stentless • Aortic • Heart valves • Bioprostheses • Endocarditis

I am pleased with the comments from Robb and Wendler [1] as they address a very important topic. I fully agree with their conclusion that full root stentless valves are a valuable option in endocarditis. The aim of my manuscript was to compare stentless and stented valves in primary valve disease [2]. Certainly, endocarditis is an extremely important area, which indeed deserves a review of its own.

REFERENCES