FIGURE 1. Freedom from reoperation because of valve-related events after Shelhigh implantation (n = 305 patients): Deutsches Herzzentrum Berlin, February 2000 to July 2008.

described in the article by Carrel and colleagues.¹ In contrast, we were able to document good outcomes of the treated patients and did not find that the Shelhigh products were associated with “deleterious outcome.”

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Reply to the Editor:

We thank Drs Musci, Siniawski, and Hetzer for their comments regarding our recent article entitled “Deleterious outcome of No-React treated stentless valved conduits following aortic root replacement.”¹ We appreciate their scientific approach to the problem and congratulate the authors on their excellent results obtained in patients with active infective endocarditis.

The authors refer to 2 of their articles published in 2003² and 2005,³ which both have been cited in our article. As already said, we originally believed that the Shelhigh aortic valve conduit (Shelhigh, Inc, Union, NJ) was an attractive alternative to homografts. We published our preliminary experience soon after the prosthesis was introduced and showed excellent short-

term results regarding handling of the prosthesis and postoperative hemodynamics.⁴ The positive experience described by the Berlin group was one of the reasons we hesitated to attribute the catastrophic outcome in several of our patients to the prosthesis itself. However, there are 2 major differences in the patient population reported by the Berlin group and ours.

First, the authors from Berlin might have overlooked the fact that, unlike in their series, the majority of our patients who received the NR2000-C prosthesis did not have endocarditis at the time of the initial operation. Our patients had subfebrile temperatures during weeks or months after elective operations for aortic root dilation, indicating that failure of the device might have mimicked destructive endocarditis. We are wondering whether Dr Hetzer’s group is able to differentiate between reinfection caused by a recurrent endocarditis and failure of the device in all of their cases.

Second, most data presented by Dr Musci primarily focuses on the Shelhigh Stentless aortic valve and not on the Shelhigh aortic valved conduit. In their article published in 2005,³ they report on 327 patients who underwent surgical intervention for endocarditis between 1996 and 2003. Only 4 (1.2%) patients in this group received the NR-2000C conduit. In the latest report,⁵ with an impressive 1077 patients, the percentage of patients who received the Shelhigh NR-2000C conduit increased to 2.4%. Therefore the total number of implanted Shelhigh aortic valved conduits is 26 in Berlin compared with 115 in Berne. Moreover, the authors do not provide separate data for the NR-2000C, and previous experiences from a joint multicenter study showed that the rate of echocardiographic follow-up was very low in this institution.

The most recent case of a severe problem with a Shelhigh conduit was observed at Johns Hopkins University, and the operation was performed by Duke Cameron. The young patient

FIGURE 1. Intraoperative view of the damaged aortic valve of the Shelhigh aortic valved conduit NR-2000C 4 years after implantation.

with a transforming growth factor β receptor mutation (*TGFBRI*) received a Shelhigh aortic valved conduit 4 years ago because of aortic root dilation and a bicuspid aortic valve. Two years later, a small pseudoaneurysm was observed below the level of the aortic anulus and repaired through the valve with a pericardial patch. At that time, we were not aware of the problems in conjunction with Shelhigh conduits. A few weeks ago, the patient presented with severe aortic regurgitation, and echocardiographic analysis showed signs of a partial dehiscence of the conduit from the native aortic anulus. Repetitive cultures were negative. At re-exploration, the Shelhigh aortic valved conduit was more or less completely dehiscent, and a tear that had occurred in the left coronary cusp was found to be the reason for severe aortic insufficiency. The coronary artery buttons were intact, and there were no signs of infection (Figure 1). The prosthesis was excised in toto, and a mechanical composite graft was implanted. Postoperative evolution was favorable.

The data presented by the Berlin group regarding the Shelhigh stentless valve does not necessarily contradict our results with the Shelhigh aortic valved conduit. We regret that the authors did not comment on the dramatic

case report from Tjan and coauthors,⁶ the US Food and Drug Administration recall,⁷ and the warning letters^{8,9} that have been issued because it would have been interesting to know how they feel about these most unusual circumstances. Surgical technique is not likely to be a factor in the behavior of these prostheses.

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DISTAL AXILLARY ARTERY CANNULATION CAN BE USEFUL TO ACHIEVE ARTERIAL INFLOW IN DESCENDING AORTIC SURGERY

To the Editor:

I read with great interest the recent article by Ogino and colleagues.¹ These authors advocate the approach on the distal portion of the axillary artery for cardiopulmonary bypass and selective cerebral perfusion in arch surgery. We routinely use the proximal axillary artery (approached via an infraclavicular incision) for arterial inflow in ascending aortic surgery, especially when the aortic arch is involved. In one case, the direct cannulation of this fragile artery caused a complete aortic dissection that required a successful replacement of the ascending aorta and aortic arch. This taught us that interposition of a side graft permits a safe perfusion with a lesser gradient and an easier decannulation.

Moreover, I want to suggest the use of distal axillary artery cannulation in the setting of descending aortic