of the everted prosthesis or postoperative hemostasis associated with anastomotic distortion was noted. Thus, the effectiveness of the turn-up method was confirmed with a significantly sized patient cohort and suitable follow-up period.

Takeshi Shimamoto, MD, PhD
Tatsuhiko Komiya, MD
Department of Cardiovascular
Surgery
Kurashiki Central Hospital
Okayama, Japan

References

1. Rylski B, Siepe M, Schoellhorn J, Beyersdorf F. An improved technique for aortic anastomosis: graft telescopic inversion. *J Thorac Cardiovasc Surg.* 2010;140:934-5.
2. Tamura N, Komiya T, Sakaguchi G, Kobayashi T. 'Turn-up' anastomotic technique for acute aortic dissection. *Eur J Cardiothorac Surg.* 2007;31:548-9.

doi:10.1016/j.jtcvs.2010.11.047

Reply to the Editor:

We read with interest the letter of Shimamoto and Komiya comparing our novel technique for aortic anastomosis using telescopic graft inversion¹ with the "turn-up" method.² We appreciate all thoughtful comments and would like to address some of the important points involved.

First of all, Shimamoto and Komiya discussed the time needed for the 2 suture techniques. Both anastomotic techniques are time-consuming. We reported that our method may take about 40% longer than the simple "over-and-over" technique. Both "turn-up" and graft telescopic inversion methods involve 2 layers of sutures for complete anastomosis. However, the easy mattress suture of felt strip in our technique extended the time for anastomosis only slightly. Additionally, there was no need for hemostatic stitches after completing the anastomosis, which might save time. Our method thus reduced the total time for the procedure significantly, mainly because we needed less time

to stop the bleeding. We are convinced that the addition of the technique of Shimamoto and Komiya in selected cases can save overall time and morbidity as well.

In describing our method, we concluded that there is no ridge in the bloodstream in comparison with the "turn-up" method. Inverted Dacron aortic anastomosis results in 1 layer of intraluminal Dacron at the anastomosis level, whereas the "turn-up" technique requires 2 intraluminal layers, which may result in a ridge projecting into the bloodstream. We believe that an anastomotic stenosis or any intraluminal edge can be unfavorable and elicit embolic events. With our method, we try to prevent anastomotic stenosis by completing the anastomosis first, then opening the crossclamp, and carefully tightening and knotting the suture for the external felt with full pressure filling to prevent suspected tourniquet syndrome on the anastomotic side.

We are convinced that both techniques are appropriate for aortic replacement, especially when the arterial wall is highly fragile, as in aortic dissection or in patients with Marfan syndrome. Please allow us to recommend our technique as a worthwhile supplement to the surgical armamentarium that can be used in cases such as those mentioned above.

Bartosz Rylski, MD
Matthias Siepe, MD
Joachim Schoellhorn, MD
Friedhelm Beyersdorf, MD, PhD
University Cardiovascular Center
Freiburg-Bad Krozingen
Freiburg, Germany

References

1. Rylski B, Siepe M, Schoellhorn J, Beyersdorf F. An improved technique for aortic anastomosis: telescopic graft inversion. *J Thorac Cardiovasc Surg.* 2010;140:934-5.
2. Tamura N, Komiya T, Sakaguchi G, Kobayashi T. "Turn-up" anastomotic technique for acute aortic dissection. *Eur J Cardiothorac Surg.* 2007;31:548-9.

doi:10.1016/j.jtcvs.2010.12.016

IMMORTAL PERSON-TIME BIAS IN OBSERVATIONAL STUDIES IN CARDIAC SURGERY

To the Editor:

We read with great interest the article by Kim and associates¹ in a recent issue of the *Journal of Thoracic and Cardiovascular Surgery*. We find this topic area engaging and relevant to clinical practice, especially in light of expanding indications of dual antiplatelet therapy and recent advances in perioperative management lending to improved acute operative mortality.² However, we have important concerns regarding the methodology and statistical analyses undertaken.

The investigators compared the treatment strategies of aspirin plus clopidogrel with aspirin alone in patients undergoing isolated coronary artery bypass grafting (CABG). Dual therapy was associated with a 50% risk reduction (odds ratio [OR], 0.50; 95% confidence interval [CI], 0.25–0.99) in in-hospital mortality, a 30% risk reduction (OR, 0.70; 95% CI, 0.51–0.97) in bleeding events, and no effect on ischemic/thrombotic events (OR, 0.99; 95% CI, 0.59–1.64). These robust, and seemingly contradictory, findings may be influenced by important biases.

First, the exposure measurement was based on the addition of clopidogrel in days 1 and 2 postoperatively, with primary outcome assessment beginning immediately after the operation. Patients must thus survive (ie, are "immortal") those days into the postoperative period to be defined as exposed to the clopidogrel therapy, whereas patients experiencing an adverse event previously were thus necessarily included in the unexposed group (aspirin alone). Such a classification of exposure to clopidogrel leads to immortal time bias.³ The magnitude of this bias is directly related to the proportion of length of stay (not provided in text) that is immortal, with shorter length of stays resulting in higher bias, and the number