

Variety of aortic anastomosis techniques: Which one is really safe?

*Çeşitli aortik anastomoz teknikleri: Hangisi
gerçekten güvenli?*

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I have read the article by Kahraman et al.^[1] with great interest. The authors are to be congratulated on producing a new aortic anastomosis technique to minimize bleeding and its associated complications.^[1] As it is very well-known, the management of hemostasis during aortic surgery has many key components. Using successful surgical techniques are the foremost among those management strategies.

There are variety of aortic anastomosis techniques reported in the literature.^[2-4] The technique which is widely accepted (which we also prefer) is quite reliable and feasible one described by Strauch et al.^[2] In this technique, the graft is positioned inside the aorta and the Teflon felt strip outside. Eventually, the aortic wall is compressed between the graft material and the Teflon felt. The key point of this technique is the invaginated graft within the aorta. Previously, it was reported 2,281 anastomoses performed with this technique with a suture line disruption rate of 1 per 296 anastomosis-years, which is very low.^[2] This anastomosis technique provides reliable suturing in all types of aortic surgery, including dissection. The main concept of this method is the composition of three layers at the suture line. Most of the reported aortic anastomosis techniques were consisted of more than two layers such as doubled-felt anastomosis, telescopic inversion, turn-up technique, double telescopic anastomosis, double-patch sandwich technique, and adventitial inversion technique.^[2-4] The main goal is to reinforce the suture line, thereby, minimizing bleeding and its associated complications, primarily pseudoaneurysm formation. Reinforcement with Teflon felts is *sine qua non* for aortic anastomoses in most cases with minimal risk of infection.

Finally, in this valuable report, one point should be discussed in detail. The first thing that comes to mind is the risk of pseudoaneurysm formation. The authors suggested that this technique prevented pseudoaneurysm formation in six cases. There is a complete continuity between the graft material and aorta. Additionally, a Teflon felt supports this plane. However, the suture line is supported by only one layer (Teflon felt), and moreover, aortic wall and graft material continuity is on a single plane. Therefore, my major concern about this technique is the possible pseudoaneurysm formation risk at the anastomotic site. From the perspective of a surgeon, this may not occasionally give a full-confident situation. Nonetheless, I believe that the authors' attitude about this subject would be very valuable for the readers.

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Author Reply

Dear Editor,

We read with great interest the additional commentary of the author(s) on our recent "How To Do It?" report.^[1] In this study, we reported the outcome of wrapping of the Teflon felt on anastomotic site via double passage of Prolene suture for treatment of six patients with



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non-dissecting ascending aortic aneurysm.^[1] First, we would like to thank the authors for their polyvalent and kind contributions to our report.

In our technique, we intentionally aimed to minimize bleeding, particularly from the anastomotic site which seemed to be evitable. While we were using single passage from Teflon felt, we saw that the felt, in some segments of anastomosis, was prone to slide onto either the graft or the aorta, which made the opposing site free from compression. Therefore, we passed Prolene from the Teflon for the second attempt in every turn to cover both end of anastomosed materials. Some surgeons may prefer simple suturing without Teflon felt for perturbation of operation time.^[2] While it is true that the performance of a carefully wrapped Teflon felt-supported anastomosis may take longer, we consider that the small amount of additional time required is insignificant considering long-term outcomes.

Complete continuity of the aorta and the graft provides smooth flow of the blood through the aortic lumen. This should prevent intimal injury at the aortic intima distal to the anastomosis. In addition, preclusion of bleeding through weak parts of anastomosis with

externally wrapped felt, folding of the aortic wall into the lumen, intimal tears, and flap should be expected to prevent pseudoaneurysm formation. Although long-term follow-up with more cases is further needed to be evaluated, we believe that non-turbulent flow^[3] and heading off intimal tears due to Prolene are the major advantages of our technique. However, in certain cases such as dissecting aneurysm and fragile aorta, we agree that the intimal support of aorta should be compensated.

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