Regarding "Predictive factors and clinical consequences of proximal aortic neck dilatation in 230 patients undergoing abdominal aorta aneurysm repair with self-expandable stent-grafts"

In their recent article Cao et al (J Vasc Surg 2003;37:1200-5) analyzed the predictive factors for proximal aortic neck dilation in 230 patients with abdominal aorta aneurysms repaired with self-expanding stent grafts. They used the 1 month postoperative computed tomography scan as the baseline for subsequent evaluation of aortic neck dilatation. However, the authors did not report the aortic neck diameter at the level of the lowest renal artery or the distance between the lowest renal artery and the beginning of the stent graft at their 1 month study. Since the length of the residual aortic neck is not known, accuracy of deployment cannot be determined from their article.[1] Without this information it is difficult to determine if the stent graft was initially implanted in a distal portion of the aortic neck, which would more likely dilate in the follow-up period. Correctly positioned endografts just below the renal arteries have been shown by May et al[2] to be correlated with no enlargement of the proximal aortic neck. Could the authors provide this information?

The angle between the flow axis of the infrarenal neck and the body of the aneurysm was defined as the aortic neck angle by Cao et al. The angle between the flow axis of the suprarenal aorta and the infrarenal neck was not reported according to suggested standards.[1] In an article published by our group[3] the angle between the flow axis of the suprarenal aorta and the infrarenal neck was a factor related to the need for secondary procedures (extender cuffs and/or conversion) after endovascular grafting. Although, aortic neck dilation was not evaluated in our article, we think that a possible correlation between the angle between the flow axis of the suprarenal aorta and the infrarenal neck with aortic neck dilation should be evaluated. Could the authors provide us with such an analysis?

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doi:10.1016/j.jvs.2003.09.041

Reply

We thank you for your comments regarding our recent publication on aortic neck dilation after endografting.

On the basis of your comments, we reviewed all the computed tomography scans of patients included in our study. The length between the lowest renal artery and the first portion of the endograft at the one-month control was measured, as suggested. The mean renal-to-graft distance is 5.52 mm, the median value is 5 mm, and the interquartile range is 5.0 to 9.2 mm. As a result, 72% of our patients showed a renal-to-graft distance $\leq$5 mm at 1 month follow-up. Analyzing the incidence of neck dilation in the subgroup of patients with renal-to-graft distance $>$10 mm, we found that 26% (10/38) of these patients show neck dilation during follow-up, while in the subgroup with closer deployment this incidence is 29% (55/192) ($P = .85$). We included the variable "renal-to-graft distance" in our multivariate model and the independent predictors of neck dilation after endografting were the same as before: neck circumferential thrombus, preoperative neck diameter, and preoperative aneurysm diameter. In our experience, a graft positioned right below the renal arteries did not protect from neck dilation.

In our opinion, a possible influence of the angle between the suprarenal aorta and the aortic neck towards infrarenal aortic neck dilation is unlikely, especially in patients who underwent infrarenal stent-graft placement. For this reason, the possible influence of the angle between the aortic neck and the abdominal aortic aneurysm was measured; yet this variable was not an independent predictor of neck dilation.

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doi:10.1016/j.jvs.2003.10.025

Regarding "Magnetic resonance angiography minimizes need for arteriography after inadequate carotid duplex ultrasound scanning"

The article by Back et al (J Vasc Surg 2003;38:422-31) on the use of magnetic resonance angiography (MRA) to define the carotid artery anatomy, if the carotid duplex ultrasound scanning was either indeterminate or inadequate, shows that MRA may replace arteriography for most patients. MRA is widely used in many medical centers today rather than arteriography to confirm the results obtained from a carotid artery duplex scanning before planning a carotid endarterectomy, and most would agree that the combination of duplex scanning and MRA increases the appropriate selection of patients for surgery. However, it is important to be aware that the severity of the stenosis as determined by MRA can occasionally be deceiving. We have shown, as have others, that the MRA will overestimate the degree of stenosis in approximately 10% of studies.[1,2] Furthermore, occluded vessels can be misclassified as being severely stenosed by MRA, and these patients could be scheduled for surgery.[1,3] Thus, relying on MRA alone may lead to misclassification of the stenosis and inappropriate treatment of the patient.

We would like to suggest that computed tomographic angiography (CTA) may be a better technique for defining the anatomy and morphology of the diseased carotid artery. The results obtained by CTA have a high correlation with the results obtained with MRA and with carotid duplex scanning, and CTA can identify the plaque morphology and ulceration.[4] In our study, CTA was also excellent for the detection of occluded vessels.[1] We recommend that if the carotid artery duplex scan is inadequate, results