

subclavian, which is often aneurysmal, as well as elimination of collateral flow by clipping intercostals. With this approach you might experience some late failure to that. What are your thoughts about that.

**Dr Wheatley:** We've been surprised that some of these patients have had slightly aneurysmal left subclavians as you said. Over the short period of time, with the short follow-up of 22 months mean, we haven't seen expansion of that

left subclavian. So it may stabilize once you've relieved the gradient. But obviously they are going to be in a surveillance program.

In terms of the collaterals, I think that we have seen a generalized decrease in the collaterals with a 64-slice reconstruction. It's hard to measure, obviously, the size, but it looks like there is generalised reduction of those collaterals but they're certainly not eliminated.

## Editorial comment

# Endovascular repair for adult coarctation: stating the obvious!

**Keywords:** Endovascular; Coarctation; Stent; Aorta

Wheatley et al. [1] report a successful series of angioplasty and stenting of primary coarctation in adults. They achieved an excellent technical result with a 50% increase of the aortic diameter, and an insignificant post-procedural pressure gradient. They did not encounter complications. They carefully selected adult patients with a primary coarctation. These patients have a virgin aorta at the coarctation site lacking calcified or fibrotic scar tissue, large access arteries and they are commonly lacking associated aortic pathologies. Proper indications, experience in endovascular procedures and great care with balloon dilation and stenting are key factors in achieving such results. The study demonstrates, along with other published series within the past few years, that an endovascular treatment of coarctation in selected patients is effective in the immediate and midterm outcome with a low complication rate. False aneurysms, dissections and restenosis account for 10–17% of the most commonly associated complications. Endoluminal stretching of the coarctation can cause disruption of the aortic wall weakened by cystic medial necrosis. If the morphology of the coarctation is at risk of such a complication, the use of a stent graft or covered stent is preferred to a bare stent, to seal the aortic tear. The stent graft is initially placed at the coarctation, and then, if necessary, a subsequent dilation can be performed safely and more vigorously within the stent graft. Alternatively, balloon expandable bare stents can be used. By expanding these stents only moderately, upsizing remains possible should a restenosis be discovered. These days the endovascular armamentarium is ample offering treatment in primary coarctation as well as in complications of a former endovascular or surgical repair. Endovascular interventions are associated with less postoperative pain and avoidance of 'surgical morbidity'. Given these factors, why would a patient elect for surgery?

However, the principal reason for intervening in patients with coarctation is to relieve hypertension and to palliate

premature coronary and cerebrovascular disease. Wheatley et al. did not report data about hypertension, although it is recommended to perform supine and exercise blood measurements at the time of the intervention as well as during follow-up. Coarctation repair results in immediate improvement of hypertension in about 60% of cases and with similar results for endovascular and surgical groups [2]. It becomes less effective with increasing age at repair, and, from this point of view, the adult subgroup is probably not the one who will benefit most. Actually, the long-term outcome over decades is known only after surgery with a durable cure rate between 50% and 60%. The equivalence of the endovascular repair in the long term has not yet been determined; however, even if it turns out less favourable, who would opt for surgery?

## References

- [1] Wheatley GH, Koullias GJ, Rodriguez-Lopez JA, Ramaiah VG, Diethrich EB. Is endovascular repair the new gold standard for primary adult coarctation? *Eur J Cardiothorac Surg* 2010;37:305–10.
- [2] Carr JA. The results of catheter-based therapy compared with surgical repair of adult aortic coarctation. *J Am Coll Cardiol* 2006;47:1101–7.

Bettina Marty\*

*Department of Cardio-vascular Surgery,  
University Hospital, Rue du Bugnon 42,  
1011 Lausanne,  
Switzerland*

\*Corresponding author. Tel.: +41 26 426 7185;  
fax: +41 26 426 7235

*E-mail address:* [martyb@h-fr.ch](mailto:martyb@h-fr.ch)  
(B. Marty)

Available online 15 July 2010

doi:10.1016/j.ejcts.2010.04.026