Cardiovascular and Interventional Radiological Society of Europe; Barcelona, Spain, 14–18 September

Endovascular sealing for abdominal aortic aneurysms: evolution or revolution?

If durability can be achieved without significant secondary intervention, the current post-endovascular aneurysm repair imaging surveillance protocol can be seriously altered with major cost savings.

In a wide-ranging review of endovascular aneurysm sealing and repair, Dr Andrew Holden of Auckland City Hospital, New Zealand, asserted: 'Patients could be discharged after endovascular aneurysm sealing without the need for surveillance or secondary intervention – and a revolution may have truly arrived.'

Dr Holden said that although the durability of endovascular aneurysm repair was a concern from the start, there was the expectation that such a minimally-invasive procedure, compared to open abdominal aortic aneurysm repair, would result in dramatically reduced morbidity and mortality. However, early registries reported disappointing and disturbing findings.

He commented: 'The reason that more patients cannot be treated by endovascular aneurysm repair is because almost all current devices seal the aneurysm from pressure and rupture risk is by graft–artery wall apposition at the proximal and distal sealing zones. This necessitates a parallel length of artery – typically, infra-renal aortic neck and iliac artery – of good length and quality without significant thrombus, angulation or dilatation. Approximately 40% of infra-renal abdominal aortic aneurysms lack these features.'

Dr Holden concluded: 'The prospect of a successful endovascular aneurysm sealing technology is exciting and potentially disruptive for current abdominal aortic aneurysm management.'

Stephen Pinn

Controversies in renal artery denervation

While acknowledging the potential of renal artery denervation, Dr Sam Stuart, Great Ormond Street Hospital for Sick Children, London, offered a reality check in a poster presentation.

He reported that renal artery denervation is regularly performed across Europe and is a growing topic at the forefront of technological and procedural development in interventional radiology and cardiology.

Dr Stuart examined renal artery denervation controversies in some detail. Citing renal artery denervation proof-of-principle data, he said that office systolic blood pressure was reduced on treatment by 27 mmHg, yet ambulatory blood pressure by only 11 mmHg. Furthermore, in HTN-2, mean office blood pressure was reduced by 32/12 mmHg, but in the 20 patients for whom 24-hour ambulatory was measured, the decrease was only 11/7 mmHg.

'Why the discrepancy?' he asked. 'Is a systolic blood pressure decrease of only 11 mmHg sufficient to justify what is a painful invasive treatment?'

He also discussed the issue of treatment resistance. 'If a treatment response is defined as a decrease in systolic blood pressure of at least 10 mmHg, then in the proof-of-concept study and HTN-2, 13% and 10% of patients, respectively, did not respond. In other studies, it has been shown that more than 30% of patients did not respond to renal artery denervation.

'Is this a result of incomplete denervation? Or do some subtypes of resistant hypertension not respond to renal artery denervation?' Dr Stuart insisted that further research is needed to identify reasons for non-response so that renal artery denervation can be reserved for those who will respond.

Despite these misgivings, Dr Stuart pointed out that the potential of renal artery denervation is being investigated in a number of areas in addition to resistant hypertension.

He concluded: 'The role of newer technologies and procedures is determined by the evidence to support their use. Current and future scientific studies will help clearly define the role of renal artery denervation and the ways it can be best used to help patients worldwide.'

Stephen Pinn

Drug-eluting balloons *vs* stents in the femoral-popliteal artery: a meta-analysis

Long-term outcomes in the femoral-popliteal artery are best with drug-eluting balloons – but only just.

Dr Konstantinos Katsanos of Guy's and St Thomas' NHS Foundation Trust, London, reported data from a meta-analysis of 16 randomized controlled trials comparing drug-eluting balloon, bare metal stents and drug-eluting stents with each other and with plain balloon angioplasty in the femoral-popliteal artery.

This research involved 2547 patients with 4138 person-years of follow-up.

Compared to plain balloon angioplasty, technical success was highest with nitinol-coated stents (risk ratio 2.3, probability being best 40%).

Vascular restenosis was lowest with paclitaxel-eluting stents (risk ratio 0.41, probability being best 50%) followed by drug-eluting balloons (risk ratio 0.43, probability being best 41%).

Dr Katsanos concluded: 'Immediate technical success was highest with covered stents, whereas paclitaxel-eluting stents and paclitaxel-coated balloons offered the best long-term results in the femoral-popliteal artery.'

Stephen Pinn