EVAR: Progress in Perspective





It is hard to believe we have passed the 25th anniversary of endovascular aortic aneurysm repair (EVAR) and are now approaching its 30th. In that time, the procedure has endured

great scrutiny from all corners of the vascular world and emerged as the preferred option for most abdominal aortic aneurysm (AAA) patients.

Despite its current ubiquity and success, the call for the procedure to prove itself continues to this day. This is in part due to the need for each innovative step forward to stand on its own merits, the failure of some to do so, and the increasing accumulation of longer-term data. For years, we have had a good idea of what to expect in a suitable candidate in the short and midterm, but wondered about long-term durability. In the past year, the first truly long-term data have emerged, with the presentation and publication of trial results from EVAR 1 and the presentation and pending publication of the DREAM trial. Both of these randomized trials now include followup data out to 15 years, and although they too will be vigorously scrutinized and qualified, they represent the best current understanding of what we can expect from the patients who have been treated during the EVAR era.

As is the case with every long-term, large-scale trial in any field, there is an element of tail chasing that cannot be avoided. Much has changed since the protocols for these trials were established, including dramatic improvements in our understanding, experience, device quality, deployment accuracy, and imaging, to name just a few. However, these data are still tremendously valuable in identifying EVAR's strengths and areas of needed improvement and informing our current decision making accordingly.

In this edition, we have invited a number of globally recognized experts to provide wide-ranging views on EVAR's progress to date and discuss the possibilities that the near future may hold.

To open our feature, we have a review and contextualization of the aforementioned long-term data. In addition to this analysis, we highly advise all EVAR practitioners to read the full publications on EVAR 1 and DREAM, as their details are many. Next, we've asked an expert panel to share perspectives on the data and how they will affect their practices.

Although EVAR's application has greatly expanded, we have also seen that results become less optimal the farther we get from a device's approved instructions for use, which poses challenges in our decision making. Our next article evaluates today's borderline cases, exploring current knowns and unknowns regarding guidelines and patient/aneurysm characteristics. One complication we must better understand and prepare for is the type II endoleak, which is covered in detail in this edition, from incidence and predictors to treatment options.

Among the foremost advancements in the field are those related to imaging, from diagnosis to planning to navigation and follow-up. Three of our articles focus on optimal utility, including post-EVAR cone-beam CT, risk stratification in EVAR surveillance (weighing radiation risk), and the role of duplex ultrasonography for reducing the need for conventional contrast CT.

In a second expert panel, we pose the question as to whether the benefits of further reducing EVAR delivery profiles outweigh any potential durability issues. Finally, we look to emerging training needs and capabilities, including simulation and 3D printing.

EVAR has come of age. It has clearly become the standard of care for AAA patients, yet its future is undefined. It is up to all practitioners to pay gratitude to EVAR's pioneers by conscientiously applying today's technologies based on lessons from early experiences. We hope you enjoy this edition.

Robert Y. Rhee, MD Hence J.M. Verhagen, MD, PhD

Guest Chief Medical Editors