

Optimizing Long-Term Aortic Aneurysm Repair and Ensuring Essential Follow-Up



Over the past 20 years, the endovascular revolution has radically changed the management of aortic disease. Today, endovascular aneurysm repair (EVAR) is the

dominant method for both thoracic and abdominal aortic pathologies. More recent technical developments have expanded our toolbox with fenestrated and branched stent grafts, which enables aortic disease involving the arch and paravisceral aorta to be treated minimally invasively as well.

Although EVAR technology has matured and proven to work well in clinical practice, some important limitations have emerged. Durability of the repair is perhaps the biggest area of concern, along with the frequent need for reintervention, which are particularly highlighted by the difficulties with achieving long-term patient follow-up. Additionally, the high radiation levels associated with complex EVAR in particular are concerning for patients and health care providers alike. In this edition of *Endovascular Today*, we explore these yet unresolved issues.

We open this issue with an important discussion on understanding long-term EVAR outcomes from a regulatory perspective with representatives from FDA, Ronald Fairman, MD, and Carmen Gacchina Johnson, PhD. They highlight the impact of recent research and expert panel discussions, obtaining appropriate follow-up data, and more.

Then, Jack Cronenwett, MD, moderates a conversation with Benjamin Brooke, MD; Philip P. Goodney, MD; Kevin Mani, MD; Marc Schermerhorn, MD; Ramon L. Varcoe, MBBS; and Grace J. Wang, MD, on the advantages and limitations of registry data for analysis of long-term EVAR trends, including improving follow-up and evaluating device use. Rounding out our in-depth look at evaluating long-term EVAR data, we interview Janet T. Powell, MD, and Frederico Bastos Gonçalves, MD, about the barriers to consistent long-term follow-up and the optimal approach to appreciating long-term patient needs.

Next, we have a series of articles centered on failure modes and reinterventions associated with various aspects of EVAR. Matthew J. Eagleton, MD, leads off by explaining the risks of developing type I, II, and III endoleaks after EVAR

and highlighting available treatment options. Then, Tara M. Mastracci, MD, describes how device durability impacts the potential for failure for fenestrated and paravisceral grafts and ways to prevent long-term failure. Lastly, Aleem K. Mirza, MD, and Gustavo S. Oderich, MD, offer a review of common indications for reintervention after EVAR with branched endografts.

With many of these procedures, minimizing radiation exposure is top of mind. As such, we talk with Bijan Modarai, PhD, about how vascular operators can optimize safety with protective equipment, the promise of radiation-free imaging systems, and a look ahead at the European Society for Vascular Surgery's upcoming guidelines for radiation protection. We wrap our coverage of aortic aneurysms with a pair of articles focused on advancements in non-fluoroscopic imaging. First, Eric J. Finnesgard, MD; Jessica P. Simons, MD; and Andres Schanzer, MD, explore the use of the Fiber Optic RealShape (FORS; Philips) guidance system that employs light reflected along optical fibers within wires and catheters to produce real-time images without fluoroscopy. Then, Francis J. Caputo, MD, outlines how the intraoperative positioning system (IOPS; Centerline Biomedical) works, including the use of structural mapping and electromagnetic tracking instead of ionizing radiation.

Also in the issue is an article dyad on superficial venous disease. First, we ask three leading venous experts, Ronald S. Winokur, MD; Julianne Stoughton, MD; and Juan Carlos Jimenez, MD, in which scenarios they prefer to use nonthermal ablation, and which are better suited to thermal ablation. Then, Nicole D'Ambrosio, MD; Bianca Cutler, FNP; and Misaki Kiguchi, MD, review notable venous disease literature published in the past year, summarizing the impact on superficial venous disease.

Our issue closes with our interview with Mehdi H. Shishehbor, DO, where we ask about how he approaches implementing a new device or therapy, the importance of multidisciplinary collaboration, and more.

We hope the collection of articles within spur your curiosity and aid your patient care approach. ■

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