A Tectonic Paradigm Shift

It is rare in vascular intervention to encounter a procedure that marks a sharp separation from the gold standard treatment for a particular indication but is at the same time embraced by the majority of interventionists across specialties as a distinct improvement in patient care. Endovascular repair of the descending thoracic aorta is one therapy that clearly meets this description.

Surgical standards in vascular care have for the most part been challenging to dethrone, with many endovascular procedures continuing to receive scrutiny even after FDA approval of numerous devices for these indications, such as is the case with popular procedures such as carotid stenting, SFA intervention, and even EVAR of the abdominal aorta. In stark contrast stands thoracic stenting, as was evidenced even at the FDA panel hearing that ultimately led to the approval of the first thoracic stent, the Gore TAG (Gore & Associates, Flagstaff, AZ). Although a few members of the panel fixated on perceived shortcomings of the pivotal trial design and data, physicians in the audience voiced their strong support of this approval. The reason these prominent interventionists and most others in the vascular community supported this approval so wholeheartedly is that even in the best hands, surgical repair in this anatomy is difficult and has been associated with devastating complications, especially in those who are not fit for thoracotomy. Of course, even endovascular thoracic repair is not without notable complications, but the data observed thus far, combined with shorter hospital stays, faster recovery, and dramatic improvement on quality of life are a substantial improvement over the surgical offering.

In the US, the FDA has only approved endovascular repair of descending thoracic aortic aneurysms. Although many believe endovascular repair will play a prominent role in other indications, including select acute and chronic dissections, traumatic lesions, and penetrating aortic ulcers, these have not yet been put through the rigor of a completed clinical trial. In this issue of *Endovascular Today*, we are fortunate to have articles from some of the early adopters of endovascular thoracic repair, sharing experiences with both thoracic aneurysms and various other clinical indications.

Drs. Jae-Sung Cho and Mak Makaroun, who served as PI for the Gore TAG trial, have prepared a summary of the pivotal phase that led to the first US approval of a thoracic stent. The experiences gathered in this trial are sure to have an impact on the approvals of other devices in the near future. One such device is the Talent/Valiant stent graft (Medtronic, Inc., Santa Rosa, CA), and Matt Thompson, MD, et al have submitted their experiences with this technology to date.

Timothy Chuter, MD, et al provide a comprehensive overview of the Cook (Bloomington, IN) stent-based branched and fenestrated endograft treatment of thoracic aneurysms, which is designed to prevent closing off critical blood flow. Also, Dr. Greenberg presents his work using hybrid surgical/EVAR approaches to thoracic aneurysm repair. Philippe Piquet, MD, shares insights and experiences using endovascular options for patients with blunt traumatic rupture of the thoracic aorta—cases distinctly different from aneurysmal patients. This research is complemented nicely with an article by Dr. Peter H. Lin, who takes a close look at the potential advantages and pitfalls of endovascular repair of nonaneurysmal applications and discusses whether current endograft technology is ready for use in these patients.

Dr. Ross Milner discusses the potential the CardioMEMS wireless pressure sensor has for optimal patient monitoring after thoracic stenting. I will describe some technical tips to facilitate thoracic stenting. We have also invited Dr. Frank Veith to be interviewed. He discusses important issues related to the VEITHsymposium, American Board of Vascular Surgery, and the ISVS. Your continued support for the independent Board of Vascular Surgery is greatly appreciated.

Regardless of your level of experience with this practice-altering and life-saving technology, we hope you find our first issue dedicated to thoracic stenting to be informative and thought-provoking. Please feel free to contact us with your own experiences in this arena at any time. ■

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