

TEVAR's Continued Progress

It has now been nearly 7 years since the first thoracic stent graft gained regulatory approval in the United States. Several device families have since gained approval, and the practice of thoracic endovascular aortic repair (TEVAR) is now in widespread use in many countries around the world. Although the initial round of approvals only pertains to the use of stent grafts in descending thoracic aneurysms, TEVAR has been widely adopted in a variety of pathologies, and, despite the challenges and gravity of disease and injury in this anatomy, our current technologies performed relatively well when applied in appropriate candidates.

Challenges remain in the treatment of dissection in particular, but clinical experience is mounting, and in sharing the lessons we've learned on multiple continents, we continue to learn the ideal applications of TEVAR. New devices are in development as well, aimed at filling the gaps in our current abilities. This month, we are happy to present an update on the current state of TEVAR, highlighting the advances already made and looking ahead to what's coming next.

My good friend of many years, Frank J. Criado, MD, FACS, FSVM, opens our feature on thoracic aortic therapies with an update on the current use of TEVAR to treat various presentations faced by interventionists in daily practice. He takes a close look at the currently available devices used in TEVAR procedures and the data on how TEVAR has been adopted in recent years. Next, W. Anthony Lee, MD, FACS, explains some of the clinical needs that are currently unmet, and some specific ways in which the next generation of thoracic endovascular devices could improve procedural outcomes.

Joseph J. Ricotta II, MD, MS, and Nikolaos Tsilimparis, MD, discuss the use of surgeon-modified fenestrated and branched stent grafts in emergent situations when patients are too high risk for surgical repair. Matt Thompson, MD, FRCS, examines the various technical challenges associated with treating the ascending aorta and shares his early experi-

ence treating cases in this anatomic territory with specially designed grafts. Mark K. Eskandari, MD, follows with an article that focuses on how to assess when TEVAR is the best option for treating patients with acute blunt aortic thoracic injuries and, perhaps just as importantly, when it is not.

It can be very difficult to keep up with all of the publications in the field of vascular intervention in a given year, and some great lessons can be missed solely due to lack of time to keep up on our reading. With this in mind, we asked my close friend Roy K. Greenberg, MD, to provide his opinions on the top five articles from the TEVAR literature in 2011. A masterful clinician and expert in scientific evaluation, Roy reviews the data from these selected papers and offers his insights as to their impact. I would like to thank Roy for taking time out of his busy life to write this valuable article.

To close our feature, we ask several experts whether they perform TEVAR to treat acute type B dissection and, if so, whether or not they use intravascular ultrasound periprocedurally.

We also have a Challenging Cases article this month by Grace J. Wang, MD, and Paul J. Foley, MD, which illustrates how to successfully repair an iliac artery pseudoaneurysm and ilio-iliac arteriovenous fistula using endovascular techniques. Additionally, Joshua A. Beckman, MD, MS, provides an update on the management of diabetes in which he shares his thoughts on the use of blood glucose reduction strategies to decrease adverse cardiovascular outcomes.

Finally, in our interview, Gunnar Tepe, MD, explains his use of drug-coated balloons in the lower limbs and how this technology is currently being studied in the United States and abroad.

We hope this month's edition provides an interesting snapshot of this point in TEVAR's timeline and a look at what might come next. ■



Takao Ohki, MD, PhD
Chief Medical Editor