Safety in SFA Intervention

With greater operator experience, better techniques for vascular access, smaller sheaths, and better bailout equipment, complications after superficial femoral artery (SFA) interventions have thankfully decreased over time. When complications occur, however, they can have a devastating impact on the patient and caregivers and result in a significant increase in procedural and hospital costs.

As we move forward in the current era of evidence-based therapies, appropriate use criteria, and cost containment strategies, there will be even greater emphasis on patient safety. Preventing issues such as distal embolization, acute thrombosis, and perforation ultimately boils down to one thing: safety. As device options develop and change, we must be mindful as we perform both simple and challenging femoropopliteal interventional procedures. From the unlikely problem of perforation to issues associated with distal embolization, complications should be well understood by the practicing interventionist, as their impact can be enormous. Sometimes, the solutions are easy, but preventing complications in the first place, if at all possible, is always preferred. Simple methods, such as using procedural checklists or taking extra care to eliminate foreign bodies by keeping our devices clean, can contribute to better outcomes. In the current issue of *Endovascular Today*, we will provide an overview of critical issues related to the safety of SFA interventions.

Despite improved performance across the board for endovascular intervention in the femoropopliteal segment, the frequent need for target vessel revascularization (TVR) remains an issue. Koen Deloose, MD, et al review this topic for us and provide guidance on ways to reduce the need for TVR with current therapies. Once a major limitation of SFA stenting, stent fracture rates have clearly declined since the first generation of these devices. This reduction can be attributed to changes in stent design, as well as a better understanding of the vessel bed, as Martin Werner, MD, explains.

Arthur C. Lee, MD, and his coauthors discuss how SFA perforation can be prevented using good angiographic technique. They review the available options for safe treatment of vessel rupture/perforation. Addressing the serious issue of acute arterial thrombosis in SFA and popliteal interventions, George L. Adams, MD, MHS, and O Jesse Mendes, BA, review anticoagulation strategies and treatments to tackle this important complication.

Distal embolization is another common problem seen in femoropopliteal interventions, with just about every treatment option causing some amount of debris. Nicolas Shammas, MD, discusses the prevention and management of this complication through the enlightened use of embolic protection devices. Ehrin J. Armstrong, MD, reviews the current treatment options for the ever-vexing problem of femoropopliteal in-stent restenosis, including balloon angioplasty, laser atherectomy, covered stents, drug-eluting stents, and drug-coated balloons.

Checklists are a simple strategy for error reduction and have been shown to significantly improve team communication and patient outcomes. Michael S. Hong, MD, and David L. Dawson, MD, share their proposed checklists for SFA interventions, which include important factors to consider before, during, and after the procedure, as well as steps for managing arterial hemorrhage and thrombosis complications, should they occur.

And although it might seem quite simple, by reducing the introduction of foreign bodies, such as cotton fibers/lint, into the patient, through a few simple changes to our procedural workflow, we can even further improve the safety of endovascular procedures.

In addition to these reviews, two expert panel discussions, the first on drug-eluting decision-making and the second, an honest look at radiation exposure concerns with regard to lower extremity interventions, round out our discussion on safety in the SFA.

We hope this issue helps you to continue performing each and every case safely and effectively. ■

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