Next-Generation DES Technology

We have seen great advances in stent design and technology since stents became synonymous with percutaneous coronary intervention, and we have come to expect these device improvements to be associated with improved clinical outcomes. This has been the case consistently, and I think we as a practice community expect better clinical outcomes with the next generation of stents. With each new iteration, demonstrating clinical benefit becomes a greater challenge. This issue looks ahead at the advances in stent therapy that we can expect to supplant the current standard.

Tim A. Fischell, MD, FACC, FSCAI; Dwight Dishmon, MD; Adam Elhaddi, MD; Shadwan Alsafwah, MD; and Santhosh R. Mannem, MD, discuss how each element of the drug-eluting stent plays a role in the efficacy of the procedure and how these parts are continually being enhanced to make the best stent possible. They also provide a helpful overview comparing many of the drug-eluting stents that are on the market today.

Verghese Mathew, MD, FACC, takes a look at the early potential advantages of using balloon angioplasty to deliver drugs locally as a stand-alone treatment over using stents.

Wei Fan; Dave M. Johnson, PhD; and Marc D. Feldman, MD, FACC, examine new stent-based polymers that will facilitate drug delivery and improve on the current generation of polymers, which have previously been shown to lead to various complications.

Refat Jabara, MD, FACC; Lakshmana Pendyala, MD; Jack Chen, MD, FACC; and Nicolas Chronos, MD, FACC, review the new and promising materials and designs that are being evaluated for use in a new generation of bioabsorbable stents.

Our cover story is augmented with a comprehensive chart on the available DES in the US market.

This month, Jason H. Rogers, MD, discusses the tools and techniques for using forward-looking intravascular ultrasound to revascularize chronic total occlusions. This new technology has the ability to more accurately find and enter the true lumen.

In our Techniques department, David J. James, MD; S. Chiu Wong, MD; and Issam D. Moussa, MD, describe a case study in which they successfully used rotational ablation as a last attempt to optimize an underexpanded stent and avoid the subsequent complications.

Lowell Satler, MD, is our featured interviewee this month. He talks about his facility at the Washington Cardiology Center and their role in ushering in new treatments, devices, and education, specifically for treating structural heart disease.

This is a great lineup of papers that I hope will help synthesize the massive amount of new data that always makes our field dynamic and exciting. Please let us know what you would like to read about in future issues. ■

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