## Embolotherapy: New Milestones and Horizons



It is an exciting time in the field of embolotherapy, a time when applications once considered "on the horizon" are increasingly our everyday procedures. First-in-human and proofof-concept have been replaced with randomized data and guideline acknowledgments, both for new pro-

cedures as well as emerging technologies. Although it has been rewarding to see new therapies proven effective, the next horizons and boundaries remain the continued development of robust data sets and, most importantly, the further convincing of other specialties of their utility and value. In some ways, we have barely scratched the surface of potential.

In this edition, we are fortunate to feature the work of those who have not only studied today's cutting-edge applications but are proving their utility and integrating their application into real-world practice.

Last year saw the inclusion of prostatic artery embolization (PAE) in the American Urological Association's guidelines for benign prostatic hyperplasia (BPH)—a significant milestone for the growth and acceptance of this procedure. We begin our coverage of embolization with two articles dedicated to PAE. First up is a conversation with four PAE experts. Tiago Bilhim, MD; Samdeep Mouli, MD; Aaron M. Fischman, MD; and Rachel Piechowiak, DO, paint a picture of today's PAE landscape, tackling its current standing in the field post guideline updates, the current evidence base and next phases, tips for patient referral and selection, and embolic selection criteria.

We then shift from the interventional radiology perspective to urology, with Alessandro Marquis, MD; Thomas R. Williams, MD; Timothy D. McClure, MD; and Ardeshir R. Rastinehad, DO, considering what the recognition of PAE in the guidelines means to our urology colleagues. This group presents efficacy and safety data and makes a call for interdisciplinary collaboration to best serve the BPH patient.

Next, we shift gears to transarterial therapy for liver tumors, which can be complicated by the presence of an arterioportal shunt (APS). Ricki A. Gottlieb, MD, and Kirema Garcia-Reyes, MD, share a case example and stepby-step guide to temporary portal venous balloon occlusion for APS mitigation during radioembolization, an effective technique for flow distribution into a tumor.

The second of our panel discussions comprises Mark W. Little, FRCR; Joaquim Maurício da Motta-Leal-Filho, MD; and Yuji Okuno, MD, with a look at the state of genicular artery embolization (GAE). The discussion ranges from current and future clinical evidence, insight into running a GAE practice, embolic and device choice, and awareness and acceptance needs. Also featured in this article is a summary by Prof. Motta-Leal-Filho of the GAUCHO trial, a randomized trial evaluating imipenem/cilastatin sodium versus permanent embolization materials for GAE.

Closing out our coverage is a final panel discussion dedicated to liquid embolization. Elizabeth M. Morris, MD, and Nora Tabori, MD, discuss the decision-making process for choosing among the various liquid embolic options currently available, top tips for use, and their wishlists for future iterations of liquid embolic platforms and clinical trials.

Outside of embolization, this issue also features an interview with Franziska Dorn, MD, an interventional neuroradiologist in Germany, on her work in the TENSION trial and German Stroke Registry, necessary improvements to stroke protocol, and efforts related to female representation and prioritization of families in the field.

In closing, we should also take a moment to note that while newer devices, agents, and applications may generate the most headlines, their progress is built on many years of hard work by embolotherapy pioneers working to build a high-quality body of evidence in their support. As advanced modern therapies grow from their niches toward standards of care, we must acknowledge the challenges of bringing a versatile, problem-solving field to more patients and conditions. Some procedures with proven track records have yet to receive sufficient acceptance outside the interventional field, and it is important we continue to advance these as fervently and with as much productive optimism as we do ever newer options.

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