

Embolization: Opportunities and Obstacles



With any new device or application, the first hurdle to be cleared is typically that of patient safety. Along with safety, efficacy must be firmly established, striking a proportionate

balance of relative risk and benefit expectations. Novel endpoints may also need to be determined—often through failed initial endeavors—and of course met. However, once proven, safety and efficacy alone do not determine the ultimate fate of a therapy. Regulatory approval, which is a challenging enough hurdle, usually only puts the technology into the communities that will deliver it, and these are not the only deciders of its fate. Many proven devices gain approval only to meet a fate of relative underuse. In the real world, establishing referral patterns and reasonable reimbursement hold the keys to widespread availability. Contrary to regulatory approvals, the paths to gaining these crucial elements can often be unclear. Referrals for a new option may disrupt an established ecosystem and as such be met with resistance if not hostility. Reimbursements vary considerably between countries and regions within their borders, but also by types of providers.

Therapeutic embolization has become an established option for a diverse variety of pathologies, and the horizon for new applications has recently expanded considerably. In this edition, we explore the studies and data driving this expansion, but also the many forces that will either foster or stifle widespread acceptance.

To begin the conversation, Siddharth A. Padia, MD, considers how the experimental geniculate artery embolization potentially fills a gap in the osteoarthritis treatment algorithm and outlines the major factors that will determine the level of support it may ultimately receive.

We then shift to a focus on prostate artery embolization (PAE). Timothy J.C. Bryant, BMedSci, looks into factors affecting full acceptance of PAE into treatment pathways for patients with symptoms of benign prostatic

enlargement, while James Katrivesis, MD, and Edward Uchio, MD, share advice for establishing a successful PAE program to treat benign prostatic hyperplasia by embracing a partnership with urology colleagues.

Uterine artery and pelvic congestion embolization are desirable women's health procedures with proven efficacy, but interventional radiologists often hit referral and payment barriers. Theresa Caridi, MD, examines why reimbursement is limited for these procedures and shares strategies for changing the payment landscape.

Studies of bariatric embolization are also drawing considerable interest. Godwin Abiola, BA, and Clifford R. Weiss, MD, discuss the key factors that need to be determined for bariatric embolization to have an established role in the obesity care pathway.

An interview with Nadine Abi-Jaoudeh, MD, puts a spotlight on embolotherapy and combination therapy for interventional oncology, covering topics including the current literature base, how the volume of the center or operator affects outcomes, and the role of radiogenomics.

Our embolization features wrap up with a look at strategies for two challenging scenarios. M.W. de Haan, MD; Fabrizio Fanelli, MD; Robert Morgan, MBChB; Parag J. Patel, MD; and Geogy Vatakencherry, MD, provide insight into their decision-making process for treating type I, II, and III endoleaks, evaluating when and how endoleak types are treated with embolization versus surgical intervention. Then, Shawn Sarin, MD, and Otto M. van Delden, MD, discuss vascular trauma embolization, stressing the need for effective communication and a prepared center.

As you can see, we do not yet know the limits of our capabilities with embolization. However, we increasingly understand that although proof of concept, safety, and efficacy are paramount, significant postmarket forces will ultimately determine the fate of these therapies. ■

Kari J. Nelson, MD
Patrick Haage, MD, PhD, MBA
Guest Chief Medical Editors