VDM VASCULAR DISEASE MANAGEMENT

INTERVIEW

Minimally Invasive Treatment Options for Osteoarthritis-Related Knee Pain: Where Are We Now?

An Interview With Yan Epelboym, MD, MPH

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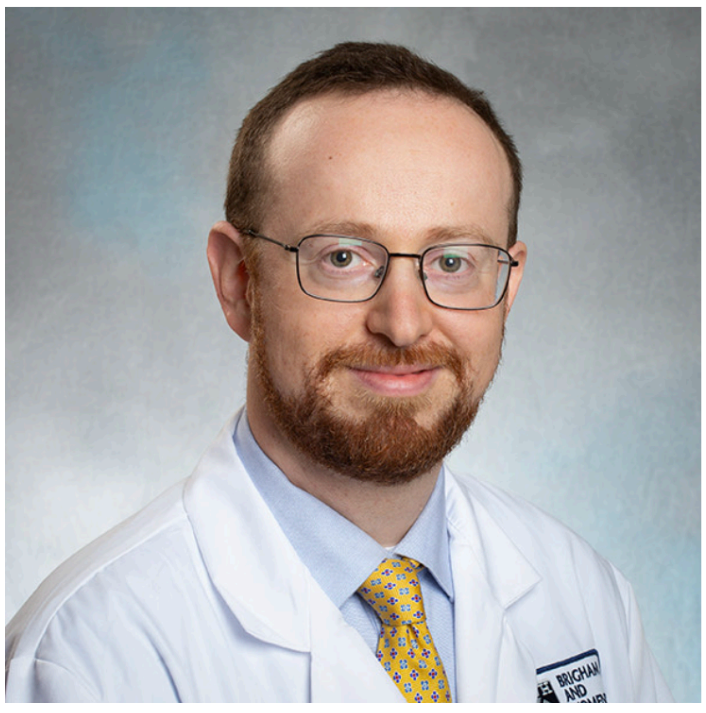
June 2025
ISSN 2152-4343



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VASCULAR DISEASE MANAGEMENT. 2025;22(6):E47-E48

At the 2025 SIR Annual Scientific Meeting in Nashville, Tennessee, *Vascular Disease Management* spoke with interventional radiologist Yan Epelboym, MD, MPH, from Brigham & Women's Hospital in Boston, Massachusetts, to discuss his presentation entitled "Knee Pain: Embolization vs Ablation—Where Are We Now?" Dr Epelboym discussed these 2 approaches to osteoarthritis (OA)-related knee pain and why they are good options to consider for patients who have not responded to other nonsurgical treatments.

What makes embolization and ablation stand out against other advanced interventional pain management techniques?

These 2 treatments are great options to consider for patients suffering from refractory OA-related knee pain. Patients who have tried physical therapy or knee injections and are still dealing with moderate-to-severe pain in the knee can consider these minimally invasive procedures. The gold standard treatment for severe OA-related knee pain is knee replacement, and should also be considered following discussion with orthopedic surgery. Many of the patients referred to my clinic are either looking to hold off on knee replacements, have contraindications to knee replacements, or are looking to reduce pain and optimize their physical strength prior to knee replacement.

Your session compares embolization and ablation for knee pain—what are the key clinical or anatomical factors that influence your choice between these 2 approaches in practice?

With current data, we still do not know which knee OA patients may be more likely to symptomatically benefit from embolization vs ablation. Evidence suggests that patients with knee synovitis have reductions in synovitis after genicular artery embolization (GAE). There is also some data to suggest that patients with knee effusions do not respond as well to genicular nerve ablation. It's possible that patients with knee synovitis and effusions may respond better to GAE as compared to ablation, but ultimately, head-to-head studies would be needed. Comparing GAE vs genicular nerve ablation will help us identify patient-level variables that may prognosticate treatment response.

With the growing demand for non-opioid pain management, how have patient expectations evolved, particularly for procedures such as embolization?

It is critical to take patient expectations into account, both regarding the procedure details and what outcomes they may expect. The current data suggest that approximately 60% to 70% of patients will have substantial reductions in their OA-related knee pain after the embolization procedure. In the next few years we will better understand the efficacy of GAE. Randomized controlled trials are currently underway and will allow us to understand how GAE compares to sham interventions. That is another key piece of information to collect since even placebo interventions can have a substantial pain-reducing effects.

Looking ahead, what technological or clinical innovations do you see as most likely to reshape the way interventional radiologists manage chronic knee pain in the next 5 years?

What has been very exciting in the past few years is to see the proliferation of different embolic options in musculoskeletal embolization. Various options of temporary embolics are being explored in this space. In the future, it will be interesting to see whether some embolics are more effective at reducing pain. In the long term, exploring how combining these embolic agents with other intra-arterial drug therapies will allow us to understand how to enhance the efficacy and durability of GAE. Exploring these kinds of questions in a laboratory setting may offer insights for use in clinical practice.

Is there anything else you wanted to cover from your presentation?

Providing patients a respite from pain is an incredibly rewarding experience for the physician and patient. Patients often come to an interventional radiology clinic after trying various other treatments. Offering GAE and ablation gives us the opportunity to build longitudinal relationships with patients while offering cutting-edge care. I look forward to the next few years as we begin to better understand how these interventions may fit in the knee OA treatment algorithms. ■