

Minimally invasive treatment reduces knee pain and disability from osteoarthritis

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A nonsurgical treatment could improve quality of life for patients with knee pain due to osteoarthritis, according to new research presented today at the Society of Interventional Radiology's 2018 Annual Scientific Meeting.

In the first U.S. clinical trial on geniculate artery embolization (GAE), a minimally invasive, image-guided [treatment](#) that blocks key arteries in the knee to reduce inflammation and pain, resulted in a majority of study participants achieving significant pain reduction and improvements in range of motion, avoiding more invasive measures.

"A majority of our patients with osteoarthritis of the knee saw significant pain reduction, not only just a few days after the procedure, but a month after as well, making this an accessible treatment for patients looking to improve their quality of life without surgery," said Sandeep Bagla, M.D., director of [interventional radiology](#) at the Vascular Institute of Virginia and lead author of the study. "We are very encouraged by the results and the implications for the millions suffering from this common, yet debilitating condition."

Interventional radiologists perform GAE for [knee pain](#) by inserting catheters through a pinhole-sized incision, blocking the very small arteries or capillaries within the lining of the knee, reducing the inflammation caused by osteoarthritis. As an outpatient treatment, GAE does not require open surgery or physical therapy, and takes 45-90 minutes to perform.

This prospective, multicenter clinical trial evaluated 13 patients with severe osteoarthritis pain. Each patient's pain and disability were measured along two scales, with evaluations before and after the treatment. The treatment was successfully completed in all 13 patients, with no adverse events. One month later, researchers followed the progress of eight patients and found that GAE significantly decreased pain (-58 mm on the Visual Analog Scale), reduced stiffness and increased physical function (-36.3 on the Western Ontario and McMaster University Osteoarthritis Index). Together the scales represent an 80 percent improvement in function compared with pre-procedure conditions.

"This procedure could have a significant impact in the treatment of osteoarthritis pain as a whole," said Bagla. "The current mainstay of treatment in patients who have arthritis are pain medications, which come with significant side effects and risks. But GAE provides another option for patients struggling with pain and may even allow patients to avoid the painful recovery of [knee](#) surgery and the need for the kind of opioid [pain](#) medications associated with the dangerous epidemic in the United States."

This study builds on the growing international research around GAE and [osteoarthritis](#). While preliminary data shows that the treatment does work and is feasible, it has only been used in a clinical trial setting. The study has completed enrollment of 20 patients and final results are expected in summer 2018. A second randomized controlled clinical trial began in February 2018 and will provide further data on what types of [patients](#) are the best candidates for this treatment and how it could move toward clinical practice.

Provided by Society of Interventional Radiology

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