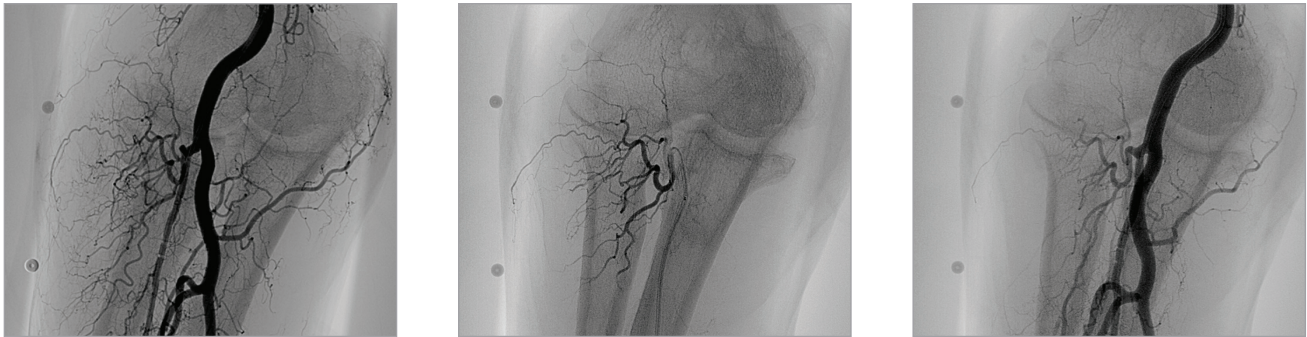


Artery embolization offers novel approach to treating lateral epicondylitis

Siddharth Padia, MD
Professor of Radiology
Director of Interventional Radiology
at UCLA Santa Monica Medical Center
Department of Radiological Sciences
David Geffen School of Medicine at UCLA



Lateral epicondylitis, or tennis elbow, is an overuse injury to the elbow that causes pain or pain with movement. It is due to inflammation at the outside of the elbow where extensor carpi radialis brevis (ECRB) muscles and tendons attach to the lateral epicondyle of the humerus. In addition to tennis, pickleball and other racket sports, lateral epicondylitis is associated with occupations — including carpentry and plumbing — that involve repetitive use of the forearm muscles.



Angiographic images show the abnormal vascularization (left) and the post-procedural return to a normal circulatory pattern (right) of a patient who has undergone elbow artery embolization. The center image shows the catheter in position to deliver the embolizing agent. The small circles at the left of each image are radio-opaque markers applied to the patient's skin to mark the location where they report pain.

The condition most often resolves with rest, non-steroidal anti-inflammatories and sometimes physical therapy. When these fail to provide relief, steroid injections may be recommended. Until recently, there was little that could be done for patients whose pain persisted despite these conservative treatments. A surgical procedure to remove the affected tissue and re-attach the muscle to the elbow is infrequently deemed to be a worthwhile option. “There are few durable and successful treatments for people with tennis elbow other than to stop participating in the sport or the activity triggering the inflammation,” says Siddharth Padia, MD, professor of radiology and director of interventional radiology at UCLA Santa Monica Medical Center.

Elbow artery embolization is currently emerging as a highly effective treatment for patients whose symptoms are not resolved by more conservative therapies. “Artery embolization is an entirely different and novel approach to treating patients with joint pain,” states Dr. Padia.

The inflammation characteristic of tennis elbow is associated with abnormal vascularization in the area of the elbow where patients experience pain. Additional blood vessels form off of one of the three arteries that supply the lateral portion of the elbow. This abnormal vascularization is thought to promote the inflammation causing the joint pain. Elbow artery embolization is a minimally invasive procedure that restores normal circulation and offers excellent relief from pain symptoms.

“The procedure is an extension of genicular artery embolization for knee osteoarthritis,” explains Dr. Padia. “We’ve been successful in treating the osteoarthritic knee — which also has

an underlying inflammatory condition — using embolization. We have now started a program for treating tennis elbow with embolization, and so far it has met with great success.”

Artery embolization is done in the hospital as an outpatient procedure. Working through a pinhole in the wrist, an interventional radiologist advances a very small catheter into the elbow artery where abnormal vascularization is seen on imaging studies, and where the patient has reported experiencing pain. A small volume of embolizing agent is infused into the targeted blood vessels, slowing blood flow to the area and returning circulation to its normal pattern. The catheter is removed and the insertion site is covered with a small bandage. The entire procedure takes less than 30 minutes and the patient is discharged about an hour after the catheter is removed.

Other than numbing the insertion point at the wrist, the procedure can be done without anesthesia, as it is entirely painless. Patients can be given a small amount of sedation if that is their preference. The procedure typically produces some bruising in the elbow area, but risks are minimal.

UCLA is one of very few centers in the U.S. offering elbow artery embolization. Little data has been published on the procedure, but a study in Japan showed that it eliminated pain symptoms for at least two years. UCLA is currently enrolling patients in an independently funded clinical study, which is open for enrollment as of press time for this newsletter. For more information, or to inquire about enrolling in the clinical study, please contact Dr. Padia at spadia@mednet.ucla.edu or call the clinic at 310-481-7545. 