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NEWS

RSNA Press Release

Minimally Invasive Treatment Reduces Shoulder Pain from Tendonitis

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At A Glance

- A large-scale study found that minimally invasive, ultrasound-guided percutaneous therapy effectively treats tendonitis caused by calcium deposits in the shoulder.
- The therapy takes about 10 minutes, is inexpensive and resulted in a considerable reduction in symptoms in a majority of patients in the study.
- Calcific tendonitis typically affects 30- to 40-year-olds and can cause pain and a reduction in shoulder mobility.

CHICAGO — Radiologists are using a new minimally invasive procedure to treat tendonitis in the shoulder. Ultrasound-guided non-surgical therapy significantly reduces pain from calcific tendonitis of the rotator cuff and restores mobility, according to a study presented today at the annual meeting of the Radiological Society of North America (RSNA).

"This is a quick, successful and inexpensive therapy for tendon calcifications," said Luca M. Sconfienza, M.D., from the Department of Radiology at A.O. Ospedale Santa Corona in Pietra Ligure and the Department of Experimental Medicine at the University of Genova in Italy. "It provides significant and long-lasting reduction of symptoms."

Calcific tendonitis is a condition that causes the formation of small calcium deposits within the tendons of the rotator cuff in the shoulder. It is most common in adults 30 to 40 years old. In most cases, the deposits become painful and can restrict mobility of the shoulder. In minor cases, physical therapy or anti-inflammatory medications may be sufficient to address the problem until the calcifications break apart spontaneously. In severe cases, patients may require shockwave treatment or open surgery to remove the calcium.

Ultrasound-guided percutaneous (through the skin) therapy represents an effective and inexpensive alternative to surgery that is less stressful for the patient. For the 10-minute procedure, the shoulder is anesthetized and, with ultrasound guidance, a radiologist injects a saline solution into the rotator cuff to wash the area and break up the calcium. A second needle is used to aspirate, or withdraw, the calcium residue. Recovery time is about an hour. Calcifications that are completely treated do not ever return.

"Calcifications can break up on their own. Unfortunately, this can take from a few months to

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several years," Dr. Sconfienza said. "This means the pain could persist for years before its spontaneous resolution."

In addition, when untreated calcifications break up, the calcium is not extracted but spreads along the tendon and lodges in the subacromial bursa, a fluid sac that helps lubricate the tendon. Calcium buildup in the tendon and bursa can cause bursitis, a painful condition with a long recovery time and a high grade of disability.

For the study, Dr. Sconfienza and colleagues used ultrasound-guided percutaneous therapy to treat 2,543 shoulders in 1,607 women and 938 men (mean age 42) with calcific tendonitis. All of the patients had shoulder pain that was unresponsive to previous medical treatment. One-year follow-up was reported for 2,018 of the patients in the study.

The results showed that in 71.7 percent of the patients, the calcification was fully aspirated in one treatment with a considerable reduction in pain and significant improvement to mobility of the affected limb. In 23.6 percent of patients, a second procedure was performed because of the presence of more than one calcification. In 3.8 percent of patients, the calcification had dissolved or moved before treatment could take place. In 0.9 percent of patients, no resolution of symptoms occurred because of the presence of a tendon tear.

While Ospedale Santa Corona and the University of Genova are among few institutions currently offering this new therapy, Dr. Sconfienza says that theoretically, the procedure could be performed in any hospital or clinic that has ultrasound equipment with a superficial probe.

"As people age, many complain of pain in the shoulders. This pain is commonly caused by calcium build-up," Dr. Sconfienza said. "This procedure can allow them to feel better immediately with little cost."

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RSNA is an association of more than 41,000 radiologists, radiation oncologists, medical physicists and related scientists committed to excellence in patient care through education and research. The Society is based in Oak Brook, Ill. (RSNA.org)

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