www.medscape.com

Steroid Injections Increased Cartilage Loss in Knee Arthritis

Tara Haelle

May 16, 2017

Quarterly corticosteroid injections for knee osteoarthritis increased cartilage loss over the course of 2 years without providing any clinical benefit, according to a randomized controlled trial published in the May 16 issue of *JAMA*.

"Although the cartilage loss was not associated with worsening of symptom outcomes, rates of cartilage loss have been associated with higher rates of arthroplasty, raising the possibility of potential for longer-term adverse consequences on the health of the joint," write Timothy E. McAlindon, MD, MPH, from Tufts Medical Center in Boston, Massachusetts, and colleagues.

The researchers compared outcomes between two groups of 70 patients, average age 58 years, with symptomatic knee osteoarthritis with synovitis, identified through ultrasonography. From February 2013 to January 2015, patients in one group received 40 mg triamcinolone in intra-articular injections, and those in the other group received placebo saline injections every 12 weeks for 2 years.

Patients underwent magnetic resonance imaging at the beginning and end of the study to provide data on cartilage volume and soft-tissue structures. Among the 119 patients who completed the study, those receiving triamcinolone lost about twice as much cartilage as those in the placebo group. Specifically, the intervention group lost an average 0.21 mm in index compartment cartilage thickness compared with 0.10 mm in the control group (for a mean difference of −0.11 mm: 95% confidence interval, −0.20 to −0.03 mm).

The researchers note that their findings differ from a smaller trial that used radiography to evaluate cartilage loss. "Radiography does not image cartilage directly and is insensitive to change, so it may not have detected the small changes in cartilage loss measured on the [magnetic resonance images] in this study." they write.

Patients rated pain scores on a Likert scale of 0 (no pain) to 20 (extreme pain). The intervention group reported a 1.2-point reduction in pain, which was 0.64 points less than the 1.9-point reduction pain reported in the control group (95% confidence interval, −1.6 to 0.29). Neither change reached the predefined value for minimal clinically important improvement of 3.94 points.

However, pain scores were only measured at each 3-month appointment, and not in the 4-week period after injection, when benefit tends to be greatest. "Thus, any transient benefit on pain ending within the 3-month period between each injection could have been missed by these methods," the authors explain.

Neither group showed structural or clinical progression of other osteoarthritis characteristics. "In fact, superficial fibrillation worsened more frequently in the saline group, although this may have been due to chance since secondary and semiquantitative structural measures showed no difference between groups," the authors write. "The effects that were detected on cartilage loss were statistically significant and consistent across different measurements."

Adverse events between the two groups was similar, with five occurring in the triamcinolone group and three in the saline group. The patients receiving saline also experienced a small increase in hemoglobin A1C levels.

Despite previous study findings suggesting a potential therapeutic effect of saline injections, the authors note the strong placebo effect known to occur with intra-articular injection and the lack of sham injections in previous trials.

"Also, the rate of cartilage loss in this study was commensurate with that observed in prior natural history studies, so it is likely that the difference in cartilage loss rates between groups was due to an adverse effect of intra-articular corticosteroids on cartilage rather than a benefit from intra-articular saline," the authors write.

The research was funded by the National Institutes of Health. The authors have disclosed no relevant financial relationships.

JAMA. 2017;317(19):1967-1975. Full text

For more news, join us on Facebook and Twitter

Medscape Medical News © 2017 WebMD, LLC

Send comments and news tips to news@medscape.net.

Cite this article: Steroid Injections Increased Cartilage Loss in Knee Arthritis - *Medscape* - May 16, 2017.

This website uses cookies to deliver its services as described in our Cookie Policy. By using this website, you agree to the use of cookies.
close