Glucosamine and Chondroitin Maybe Not Effective for Arthritis

Major study suggests that placebo works just as well.

By Brenda Goodman
Medical Editor

The popular dietary supplement combination of glucosamine and chondroitin appears to be no more effective at preventing joint damage caused by arthritis than a placebo. That’s the conclusion of the long-awaited second phase of the landmark Glucosamine/Chondroitin Arthritis Intervention Trial, or GAIT, published in the journal Arthritis & Rheumatism.

While the first phase of GAIT, the first large-scale study of any dietary supplement, was designed to gauge what effect the combination of glucosamine and chondroitin sulfate might have on knee pain, the second phase looked at whether the supplements could slow the destruction of cartilage that leads to narrowing in knee joints, which is visible on an X-ray.

Researchers at nine centers around the country followed 357 people with knee osteoarthritis who were randomly assigned to take daily doses of either 1500 mg of glucosamine, 1200 mg chondroitin sulfate, the combination of glucosamine and chondroitin, 200 mg of celecoxib (Celebrex), or placebo pills.

After two years, X-ray differences between the five groups were barely detectable.

Those assigned to the placebo group had lost an average of .166 millimeters of cartilage in their knees, while the group taking glucosamine with chondroitin lost .194 millimeters.

While none of the differences between the groups was statistically significant, the researchers noted that the participants who lost the least amount of joint space over two years were in the groups taking either glucosamine alone or chondroitin alone. Participants in those groups lost averages of .013 millimeters and .107 millimeters in their knees, respectively.

Previous studies have indicated that taking the two supplements together might limit their absorption into the body. If that’s true, researchers think that could be a reason why they didn’t see any effect in this trial.

Though the study failed to find any benefit in taking glucosamine with chondroitin for arthritis patients, even the study’s lead author says this is not the final word on the popular supplements.

Allen D. Sawitzke, MD, an assistant professor of medicine at the University of Utah School of Medicine in Salt Lake City, says that because of significant limitations, like a small sample size, this study probably didn’t have enough power to determine whether glucosamine and chondroitin are truly effective for patients with arthritis.

He says that he and his colleagues were puzzled and disappointed by their results.

"I think we feel like it would have been nice to answer the question definitively, but we really couldn’t do that," Dr. Sawitzke says.

Based on his experience with GAIT, Dr. Sawitzke says he no longer recommends glucosamine and chondroitin to everyone, but that he does support its use in appropriate people.

"If they want to take it for pain, I tell them to try it for three to four weeks,” he says. “If they feel better, I say keep taking it.”