

# Glucosamine Delays Knee Replacement Surgery

BY BRUCE JANCIN  
Denver Bureau

VIENNA — The use of oral glucosamine by patients with knee osteoarthritis results in a marked reduction in need for knee replacement surgery for at least 5 years after the drug is stopped, Karel Pavelka, M.D., reported at the annual European congress of rheumatology.

He presented new 5-year follow-up data from his previously reported double-blind placebo-controlled trial involving 202 patients with knee osteoarthritis randomized to oral glucosamine sulfate at 1,500 mg once daily or placebo for 3 years (*Arch. Intern. Med.* 2002;162:2113-23).

During the next 5 years after the 3-year trial ended and patients were back on standard conservative management, 11 of 67 patients formerly in the placebo arm underwent total knee replacement, as did 3 of 69 previously on glucosamine. This represents a 73% reduction in the risk of surgical knee replacement. The number of patients who needed to be treated with glucosamine instead of placebo to avoid one additional knee replacement was eight, noted Dr. Pavelka of Charles University, Prague, Czech Republic.

## Early Surgery, Low BMI for Microfractures

Microfracture significantly improved knee function in patients with isolated full-thickness cartilage defects of the femur, Kai Mithoefer, M.D., reported at the annual meeting of the American Academy of Orthopaedic Surgeons.

His prospective evaluation of the common technique, which involves clearing out defective cartilage and creating a series of holes in the subchondral bone to stimulate growth of fibrocartilaginous repair tissue, showed that best results were obtained in patients who had good repair tissue fill, low BMI, and symptom duration less than 12 months.

In the study, 48 patients were evaluated, with a minimum 2-year follow-up, using a combination of validated outcomes scores—including the SF-36 and Activities of Daily Living scores—cartilage-sensitive MRI, and a subjective rating. Most patients were male; they averaged 21 years of age.

Patients with high functional scores had lower BMI and shorter preoperative symptoms, reported Dr. Mithoefer, of Massachusetts General Hospital, Cambridge.

MRI demonstrated good repair-tissue fill in the defect in 55% of patients, moderate fill in 29%, and poor fill in 17%. Patients with good fill grade “had significantly more improvement in all the scores than patients with moderate fill grade,” he said. Poor fill grade was associated with limited improvement and decreasing functional scores after 24 months. Patients with also had higher BMI and a longer duration of symptoms, he reported.

—Christine Kilgore

Glucosamine resulted in salutary radiographically measurable changes in joint structure that persisted for years after treatment ended. This is the most likely explanation for the observed reduction in knee replacement, the rheumatologist said at the congress, which was sponsored by the European League Against Rheumatism. Indeed, only 5% of patients on glucosamine had more than 5 mm of joint space narrowing during the 3-year active treatment phase, compared with 14% in

the placebo arm. And this degree of joint space narrowing during the first 3 years of the study was associated with a 3.2-fold increased risk of total knee replacement during the subsequent 5 years.

Maxime Dougados, M.D., commented that Dr. Pavelka’s report is an exciting development in that it confirms a similar benefit seen in a study previously presented at the annual meeting of the American College of Rheumatology by Jean-Yves Reginster, M.D., of University of

Liège (Belgium). That study involved a 3-year off-treatment extended follow-up of a randomized placebo-controlled glucosamine trial; it, too, showed less total knee replacement in patients previously on glucosamine.

“I think with this kind of information, we’ll finally be able to convince the medical community that there is proof of a disease-modifying drug in osteoarthritis,” added Dr. Dougados of René Descartes University, Paris. ■

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