Joint Distraction Delays Surgery in Severe Knee OA

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AMSTERDAM — Joint distraction via temporary external fixation may provide a powerful new tool in the management of severe knee osteoarthritis in younger patients, Dr. Floris P.J.G. Lafeber said at the annual European Congress of Rheumatology.

The purpose is not to provide an alternative to joint replacement surgery, but rather to delay the procedure until a point in life where the first prosthesis is likely to be the only one the patient will ever need, explained Dr. Lafeber of Utrecht University Medical Center, the Netherlands.

Patients with knee osteoarthritis (OA) secondary to athletic trauma often develop end-stage disease before age 55. Give a 55-year-old a prosthetic joint, however, and the patient is likely to require a complex revision by age 70. It's an expensive, challenging procedure, and the clinical results are not as good as the first time around, Dr. Lafeber said at the congress.

Joint distraction provides the ravaged knee with an extended restorative vacation. This is accomplished by placing pins in both bony ends of the knee joint, then joining the pins together in an external fixation frame that maintains 5 mm of joint distraction by x-ray.

The separation eliminates mechanical stresses on the articular surfaces, preventing further cartilage wear and tear. In addition, the lessened load on bone is believed to result in temporary osteopenia within the distraction area, he noted. This softened, demineralized bone also reduces stress on the cartilage. And when the fixation frame is removed, the bone reloading triggers increased bone turnover with release of growth factors thought important to cartilage repair.

Thin flexible wires or springs in the distraction frame promote intermittent intraarticular fluid pressure changes. This is thought to be necessary for adequate nutrition of chondrocytes during the distraction period, which lasts 2-3 months. That's about as long as patients are willing to put up with the inconvenience, he said.

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DR. LAFEBER

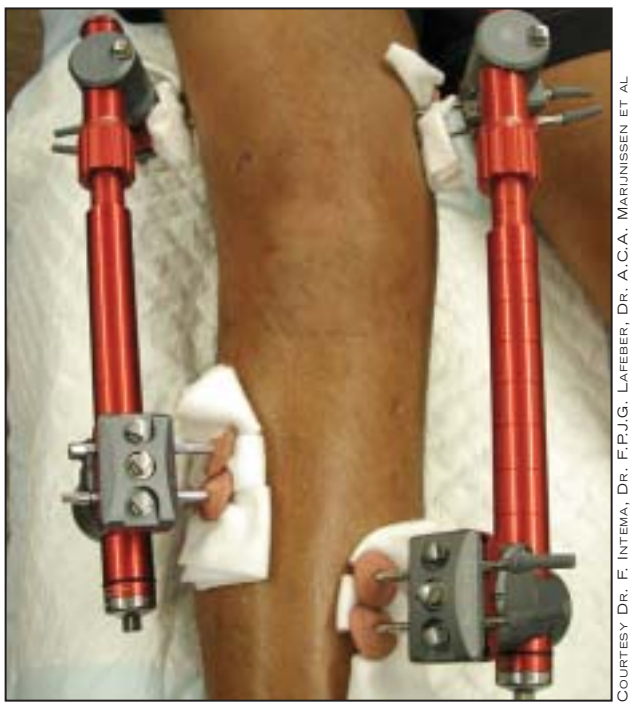
The first joint distraction studies were published over 12 years ago by Italian investigators working with hip OA patients. More recent work by Dr. Lafeber and his fellow investigators and several others has involved posttraumatic severe ankle OA in joint fusion candidates. Significant improvements in pain and function in three-quarters of patients have been documented with follow-up of 2-16 years.

To date, the pioneering work on knee OA by Dr. Lafeber's group involves seven patients with a maximum follow-up of 2 years. He termed the results "very promising." Pain scores averaging 8 on a scale of 10 at baseline dropped to 1 in the first 6 months, with the benefit sustained during the remainder of follow-up. Joint function improved from 20% of the maximum score to 80%.

"The results are seen even faster than in ankle distraction, with a similar degree of clinical benefit," said Dr. Lafeber.

A key unanswered question is whether these clinical benefits are accompanied by underlying structural changes in cartilage and bone. Dr. Lafeber and coworkers are obtaining serial x-rays and MRIs and gathering serum and urine samples for future analysis of cartilage and bone turnover markers in an effort to resolve the issue. Blinded scoring of joint status by arthroscopic examination shows preliminary evidence of benefit.

"We don't think the results are due to a placebo effect," he said. ■



COURTESY DR. F. INTEMA, DR. F.P.J.G. LAFEBER, DR. A.C.A. MARIJNISSEN ET AL

A restorative vacation: An external fixation frame maintains 5 mm of distraction in the knee joint.

Weight Loss in Obese Knee OA Patients Backed by Trials

AMSTERDAM — Obese patients with knee osteoarthritis can be told with confidence that a sustained weight loss of at least 5% of their body weight will typically lead to a moderate reduction in physical disability, while a greater weight loss will result in even more marked improvement, Robin Christensen reported at the annual European Congress of Rheumatology.

His metaanalysis of three randomized controlled trials totaling 417 obese osteoarthritis (OA) patients also concluded that the intensity of weight loss required to achieve this benefit corresponded to a loss rate of at least 1% of baseline body weight per month, said Mr. Christensen of HS Frederiksberg Hospital, Copenhagen.

The reduction in physical disability was greater with a sustained weight loss of at least 7.6% than it was with a 5% weight loss.

The impact of weight loss upon pain scores was considerably less consistent than for physical disability, he noted at the congress, sponsored by the European League Against Rheumatism.

Mr. Christensen was principal investigator in one of the randomized trials included in the metaanalysis (Osteoarthritis Cartilage 2005;13:20-7). In that study, patients randomized to a low-energy 3.4 MJ/day diet lost a mean 11.1% of their body weight, and 55% of them sustained at least a 10% weight loss at 1 year. They experienced a mean 20% reduction in symptoms from a baseline Western Ontario and McMaster Universities Osteoarthritis Index of 936 mm.

'The powdered supplement acts as a catalyst so they can feel that this is really working.'

MR. CHRISTENSEN

Under the EULAR system of grading evidence-based medicine, the new metaanalysis ranks as level 1A evidence supporting the benefit of weight loss in obese knee OA patients.

Mr. Christensen added that it has been his impression that knee OA patients have a significantly better than average success rate in losing weight and keeping it off.

Still, sustained weight loss remains a major challenge. In his 1-year randomized trial, Mr. Christensen tried to give patients an edge by having them use a powdered nutritional formula as the core of a low-energy diet during the first 8 weeks before shifting to a more moderate dietary regimen.

"The powdered supplement acts as a catalyst so they can feel that this is really working," he explained. ■

Try Extended-Release Acetaminophen In Place of COX-2s for Knee OA Pain

AMSTERDAM — Extended-release acetaminophen is a possible alternative to cyclooxygenase-2 inhibitors for pain associated with knee osteoarthritis, Dr. Thomas J. Schnitzer reported at the annual European Congress of Rheumatology.

Current osteoarthritis (OA) guidelines recommend the original shorter-acting formulation of acetaminophen at 4 g/day as a first-line treatment for pain associated with the disease. The extended-release formulation, which is commercially available, offers the advantage of less frequent dosing, explained Dr. Schnitzer, professor of medicine at Northwestern University, Chicago.

He reported on 403 adults with knee OA who participated in a 4-week, 23-center, double-blind U.S. clinical trial. Participants were randomized to extended-release acetaminophen at the recommended adult dosage of 1,300 mg t.i.d., rofecoxib at 12.5 mg/day, or rofecoxib at 25 mg/day.

Rofecoxib, a cyclooxygenase-2 inhibitor, was taken off the market in response to cardiovascular safety concerns. Prior to that, however, it was very widely prescribed for OA pain because it was less likely to cause GI bleeding than were conventional NSAIDs.

The primary study end point was change from baseline to week 4 in the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) OA pain subscale. The mean 143.5-mm drop on the 0- to 500-mm visual analog scale in the acetaminophen group was not significantly different from the results with rofecoxib at 12.5 mg/day, but it was inferior to the 175.9-mm drop with high-dose rofecoxib.

The extended-release formulation is commercially available and requires less frequent dosing.

DR. SCHNITZER

Study withdrawal rates for lack of efficacy were 1.5% with extended-release acetaminophen and 3.6% and 1.6%, respectively, for low- and high-dose rofecoxib. Dropout due to adverse events occurred in 5.9% of the acetaminophen group, 6.5% with rofecoxib 12.5 mg, and 7.0% with 25 mg. Headache was reported by 6.6% of patients on extended-release acetaminophen, compared with 0.7% on the low dose and 5.4% on the high dose of rofecoxib, Dr. Schnitzer noted.

Two patients had an acute MI during the 4-week study, both in the rofecoxib 12.5-mg arm. Investigators deemed the MIs unrelated to the study medication.

The study was sponsored by McNeil Consumer Healthcare. ■