Rigorous Exercise May Delay Hip Replacement

BY M. ALEXANDER OTTO

FROM THE WORLD CONGRESS ON OSTEOARTHRITIS

SAN DIEGO – A 3-month exercise program appears to have significantly delayed, and perhaps even prevented, hip replacements in a Norwegian randomized controlled trial.

Within the first 6 years after participating in the exercise program, 40% of patients (22) had gotten a hip replacement; in the control group, 57% (31) had gotten an artificial hip during the follow-up period.

The 109 patients who started the trial had mild to moderate hip pain and were not yet eligible for surgery. They went through three 90-minute education sessions where they were told to stay active, even if it hurts a bit.

The message was "don't be afraid of your pain. It won't damage your cartilage" and might improve symptoms, said researcher Linda Fernandes, Ph.D., a physiotherapist at Diakonhjemmet Hospital in Oslo.

Immediately after the education part of the trial, 55 patients were randomized to a 3-month, supervised strength and flexibility exercise program.

"We pushed them quite hard," Dr. Fernandes said at the congress sponsored by the Osteoarthritis Research Society International.

They "had to exercise at 70%-80% of [their] maximum" for over 1 hour. Patients attended, on average, about twice a week; 80% completed 20 sessions.

In spring 2011 – 3.5-6 years after the exercise program, Dr. Fernandes and her associates telephoned patients in both arms of the trial to learn if they had a subsequent hip replacement.

The results were "kind of surprising to us," said senior author and physiotherapist May Arna Risberg, Ph.D., professor in the sport medicine department at the Norwegian School of Sport Sciences in Oslo.

Among patients who had gotten an artificial hip, the median time to surgery in the exercise group was 5.4 years; it was 3.5 years in the control group. Exercise patients also had significantly less pain and better function, not only in the spring of 2011 but also at earlier follow-up points.

The two groups were evenly balanced, with no significant baseline differences in age, sex, joint space, Harris Hip Score, and self-reported pain and function.

The progression of radiographic osteoarthritis was also significantly worse in the patients who did not get supervised exercise. "The mechanism for how this works we don't know," Dr. Risberg said.

Patients worked on 26 exercises, including squats, crunches, cycling, and stepping. If they learned how to balance on one foot, patients were put on a balance pad to make it harder. If they got to the point where they could do eight leg curls, "we increased the load," Dr. Fernandes said. If pain got to be too much, they backed off the exercise until it diminished (Phys. Ther. 2010;90:592-601).

The team collected data on cardiovascular and other physiologic parameters in the two groups but has not analyzed them yet. They also surveyed how active patients were at various follow-up points, but lost confidence in their assessment scale – the Physical Activity Scale for the Elderly (PASE) – after one of the researchers determined it was not valid for their setting.

To date, there have been few randomized controlled trials to see if exercise helps hip osteoarthritis, though exercise is known to help knee osteoarthritis, Dr. Risberg said.

Patients in the study were 40-80 years old and had hip pain for more than 3 months, radiographically confirmed hip osteoarthritis, Harris Hip Scores of 60-95, and no previous joint replacements.

The next best step would be a larger randomized trial, Dr. Fernandes said, but in the meantime the team is analyzing patients' biomechanics to see if they correlate with the outcomes. ■

VITALS

Major Finding: After going through a rigorous 3-month exercise program, 40% of patients with hip osteoarthritis (22) got a hip replacement within 3.5-6 years; 57% of their control group peers who did not go through the exercise program (31) got an artificial hip during the same period.

Data Source: Randomized controlled trial involving 109 patients.

Disclosures: The study was funded by the Norwegian Foundation for Health and Rehabilitation, the Norwegian Rheumatism Association, and the South-Eastern Norway Regional Health Authority. The researchers said they have no relevant financial disclosures.