A CONTROLLED TRIAL OF ARTHROSCOPIC SURGERY FOR OSTEOARTHRITIS OF THE KNEE

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ABSTRACT

Background. Many patients report symptomatic relief after undergoing arthroscopy of the knee for osteoarthritis, but it is unclear how the procedure achieves this result. We conducted a randomized, placebo-controlled trial to evaluate the efficacy of arthroscopy for osteoarthritis of the knee.

Methods. A total of 180 patients with osteoarthritis of the knee were randomly assigned to receive arthroscopic débridement, arthroscopic lavage, or placebo surgery. Patients in the placebo group received skin incisions and underwent a simulated débridement without insertion of the arthroscope. Patients and assessors of outcome were blinded to the treatment group assignment. Outcomes were assessed at multiple points over a 24-month period with the use of five self-reported scores—three on scales for pain and two on scales for function—and one objective test of walking and stair climbing. A total of 165 patients completed the trial.

Results. At no point did either of the intervention groups report less pain or better function than the placebo group. For example, mean (±SD) scores on the Knee-Specific Pain Scale (range, 0 to 100, with higher scores indicating more severe pain) were similar in the placebo, lavage, and débridement groups: 48.9±21.9, 54.8±19.8, and 51.7±22.4, respectively, at one year (P=0.14 for the comparison between placebo and lavage; P = 0.51 for the comparison between placebo and débridement) and 51.6±23.7, 53.7±23.7, and 51.4±23.2, respectively, at two years (P =0.64 and P = 0.96, respectively). Furthermore, the 95 percent confidence intervals for the differences between the placebo group and the intervention groups exclude any clinically meaningful difference.

Conclusions. In this controlled trial involving patients with osteoarthritis of the knee, the outcomes after arthroscopic lavage or arthroscopic débridement were no better than those after a placebo procedure.

When medical therapy fails to relieve the pain of osteoarthritis of the knee, arthroscopic lavage or débridement is often recommended. More than 650,000 such procedures are performed each year at a cost of roughly $5,000 each. In uncontrolled studies of knee arthroscopy for osteoarthritis, about half the patients report relief from pain. However, the physiological basis for the pain relief is unclear. There is no evidence that arthroscopy cures or arrests the osteoarthritis. Therefore, we conducted a randomized, placebo-controlled trial to assess the efficacy of arthroscopic surgery of the knee in relieving pain and improving function in patients with osteoarthritis. Both patients and assessors of outcome were blinded to the treatment assignments.

METHODS

The college and hospital institutional review board approved the protocol. A data and safety monitoring board monitored the study.

Study Participants

Participants were recruited from the Houston Veterans Affairs Medical Center from October 1995 through September 1998. Patients were eligible if they were 75 years old or younger, had osteoarthritis of the knee as defined by the American College of Rheumatology, reported at least moderate knee pain on average (≥4 on a visual-analogue scale ranging from 0 to 10) despite maximal medical treatment for at least six months, and had not undergone arthroscopy of the knee during the previous two years.

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