Editorial

Arthroscopy for osteoarthrosis of the knee is seldom necessary

Arthroscopy of the knee is one of the commonest surgical operations. It is estimated that more than 1,000,000 arthroscopies are performed each year in the world. During the last two decades, both the equipment and technical surgical skills have improved, making it possible to perform various operations depending on arthroscopic techniques. Since arthroscopy of the knee can be done using local anesthesia, such operations can easily be performed as so-called office surgery. Currently, arthroscopic surgery for the treatment of meniscal tears and reconstruction torn anterior cruciate ligaments has become a generally accepted routine. The use of arthroscopy for osteoarthrosis of the knee, however, is more debatable. When medical therapy fails to relieve the pain caused by arthrosis of the knee, arthroscopy is recommended in many cases. Several uncontrolled studies have suggested that arthroscopic debridement or lavage alleviates pain in the knee for a long time. There is no evidence that such arthroscopic surgery slows down the development of osteoarthrosis. Moreover, the mechanisms of alleviation of the knee pain after arthroscopy are not understood. Osteoarthrosis of the knee is common. About 6% of the population of the United States above 30 years of age and 12% of those 65 years of age or more have frequent knee pain from arthrosis (Felson and Zhang 1998).

A controlled, prospective and randomized study comparing knee arthroscopy and placebo was recently published in the New England Journal of Medicine (Moseley et al. 2002). It has been widely discussed in the mass media and several orthopedic surgeons believe that the future role of arthroscopic surgery should be carefully reviewed. The authors randomized 180 patients under 75 years old at a veterans hospital for arthroscopic debridement, arthroscopic lavage or placebo surgery, which included a skin incision and simulated arthroscopy without insertion of the arthroscope. The grade of osteoarthrosis ranged from mild to severe. 165 of them were followed for 24 months. At no time did the results regarding pain or function of the knees, which were subjected to placebo surgery differ from those that underwent debridement or lavage. The trial was well planned and the methods were entirely satisfactory. One experienced surgeon performed all the arthroscopies.

Some authors have suggested that arthroscopy of the knee relieves pain by removal of particulate debris and mediators of inflammation. Arthroscopic debridement can include removal or shaving of fragmented cartilage or of loose bodies or resection of torn and degenerated menisci and resection of hypertrophic synovium. Moseley and co-authors questioned the use of such procedures and suggested that the only benefit derived from arthroscopy for osteoarthrosis of the knee is its placebeo effect. The Editorial in the same issue of the New England Journal of Medicine, where the original work was published, points out some flaws in their study: males were over-represented and almost half of those invited to participate in the trial declined to do so (Felson and Buckwalter 2002). The strong points of the study were the large size of the sample, placebo surgery for the controls, blinded follow-up evaluation and loss of only a few participants during the follow-up. Perhaps the most surprising result was that removal of torn and fragmented cartilage or meniscal tears was not beneficial and the findings resembled those in the placebo group.

As expected, the study by Moseley and co-authors has faced tough criticism by several orthopedic surgeons. Some have raised the question about the ethical aspects of using placebo surgery as the control. Was it ethical to perform sham surgery? The control procedure included a simi-

lar skin incision in the controls and in the groups subjected to surgery. It was also asked whether it was correct to perform surgery in conditions which may not require it. The American Academy of Orthopaedic Surgeons (AAOS) praises the study for improving evidence-based medicine and for a good study design, but mildly criticizes the selection of patients (Rapp 2002). The patients treated in a veterans hospital may not be representative. It was suggested that similar studies should be done on patients in general hospitals. Some critics were focused on the methods used (SF-36 general health measure, the AIMS-2 pain scale and Wisconsin brief pain questionnaire). One of the major concerns has been that the study may not be kept in perspective and that it will be automatically extrapolated to all types of arthroscopic surgery. At the same time it is important to know that many of the common orthopedic operations and procedures are not based on scientific evidence and evidence-based medicine. In view of this, the study by Moseley and co-authors is exceptionally valuable.

Currently, it seems desirable that more care should be exercised in the selection of patients for arthroscopic surgery in osteoarthrosis of the knee. Until more evidence has been available, one can recommend arthroscopic surgery for knees with arthrosis that have definite meniscal tears and removal of mechanically disturbing loose bodies.

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