Editorial

KNEE JOINT REPLACEMENT IN SAUDI ARABIA - PRESENT AND FUTURE

Knee joint replacement has now been used clinically in the industrialized countries for about 20 years and has become a standard surgical procedure in most orthopedic clinics. More than 4500 replacements (total and unicompartmental) are performed annually in Sweden alone, a small country with a population of 8.5 million. The long-term results and survival rates of the prostheses are very good compared to many other surgical procedures. More than 90% prosthetic survival at 10 years is not uncommon. Loosening, wear and infection are, however, still problems which are clearly reflected in the Western orthopedic literature. This was recently pointed out and discussed in two editorials in the British issue of the Journal of Bone and Joint Surgery[1] and Acta Orthopaedica Scandinavica.[2]

The situation in Saudi Arabia and the Middle East in general is in many ways different. The number of knee replacements performed is still (fortunately) small compared to Western countries. Only a few hospitals in Saudi Arabia perform more than 12 procedures a year. Often the operations are performed by orthopedic surgeons who come from the Western countries to work for a few years in Saudi Arabia or who have had their training abroad. Sometimes they "translate" their experience directly to the Saudi Arabian environment, using the same indications for operation as in the West and expecting the same good long-term results and survival rate. It can, however, by no means be taken for granted that this can be done. There are too many differences between these populations regarding the disease pattern itself, the patellofemoral compartment being the main problem,[3] the habits of daily life (squatting, kneeling, cross-leg sitting), patients' expectations and cooperation, to conclude that the results should be the same. On the basis of these and other differences, it is justified to suppose that the results in Saudi Arabia are less favorable than in the Western countries. Unfortunately, there are no good long-term follow-up studies published to confirm or reject this suggestion.

Selection of cases suitable for joint replacement is perhaps the single most important factor in achieving good results. Although arthrosis of the knee is a common disease in Saudi Arabia, a relatively smaller number of patients are good candidates for joint replacement compared to those in Europe and North America. One reason for this is the Saudi patients' age distribution, 40% being less than 50 years,[4] another reason being the patients' expectations. Many of them are not satisfied with a postoperative knee flexion of about 100°, which prevents them from kneeling and squatting. Even if the range of motion should permit squatting and kneeling, the patients should be advised to avoid it, as this stress to the knee increases the risk for loosening of the prosthesis. For many of the patients, it is preferable to use tibial osteotomy or even arthroscopic "joint debridement", which can give at least temporary relief of the pain. "Change of lifestyle is probably as important for these patients as it is for a smoker facing a cardiac bypass operation."[2]

Selection of prosthesis is another factor of importance for the results. Plenty of prostheses are available on the market and innovations are presented continuously. Some of these are of very complicated construction in an attempt to copy the natural joint's sophisticated pattern of movement. This is too ambitious and has not been shown to improve the results.[5] New designs have often introduced new complications. To prove that a new type of prosthesis is significantly better than one of the already well established types, a follow-up series of about 3000 cases is needed.[6] For the average orthopedic surgeon who is dealing with knee joint replacements it is, therefore, advisable to resist the temptation to be "up-to-date" and to stick to the well-established types of prostheses. This might save him/her from regrets in the long run and benefit his/her patients.

As the anticipated number of patients in Saudi Arabia suitable for knee joint replacement is rather limited, a centralization of these operations to a few orthopedic clinics located in various regions of the Kingdom should contribute to improving the quality of the results. To keep and improve the technical skills and experience of the orthopedic surgeon and the whole treating team, probably not less than 25 replacements per year should be performed. Also, from an economic point of view, a centralization has great advantages. It cannot be cost-effective to keep expensive sets of instruments and large stocks of prosthetic parts, which are needed to cover various situations faced during an operation, if only a handful of operations are performed annually.

In 1975 the Swedish Orthopaedic Association initiated a multicenter data base on all artificial knee joint replacements performed in Sweden. The experience of this nationwide central registration is very positive. Each patient is followed at three, six and 10 years and any

complications or revisions are reported annually.[7] This kind of registration gives early indications if a certain type of prosthesis or a certain hospital has an unexpectedly high rate of complications or poor results.[8] It would definitely be very beneficial if a similar system could be established in Saudi Arabia. National central registration of malignant tumors and congenital deformities are already in the planning stage and there is no reason why it should not be possible to develop the same system regarding knee joint replacements.

Recently a group of orthopedic surgeons with a special interest in knee surgery, working in various regions of Saudi Arabia, held a meeting in Riyadh. This "knee club" plans to meet off and on to discuss matters of common interest. I think that this could be a suitable forum where the policies for future knee joint replacement in Saudi Arabia could be discussed and recommendations given. Methods to improve the follow-up and the establishment of a central national registration should be high on the agenda. "The orthopedic community should take its responsibility and begin organizing quality assurance systems"[8] as previously described.

Ake Ahlberg, MD,PhD
Professor and Chairman
King Faisal University
Department of Orthopedic Surgery
P.O. Box 2114
Dammam 31451, Saudi Arabia

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