ANNOTATION

ARTHROSCOPIC SURGERY

Despite its present popularity, arthroscopy is not a new technique; it was first performed in 1918 by Takagi who, by 1938, had already developed an operating arthroscope (Watanabe, Takeda and Ikeuchi 1979). Half a century ago, Burman described the technique for arthroscopy of the knee, ankle and elbow, with the results in 100 knees (Burman 1931; Burman, Finkelstein and Meyer 1934) and nothing really new has been written since. Why then did arthroscopy fail at its first appearance but succeed at its second? The reasons for the failure were probably the interruption caused by the Second World War, and doubts about the practical value of a purely diagnostic arthroscopy. Success came with the development of the rod lens and the fibre-light bundle, which revolutionised endoscope design; but the greatest impetus followed the introduction of arthroscopic surgery and pressure from patients who were impressed by the easy convalescence and rapid rehabilitation which allowed them to return to work within days of meniscectomy (Dandy 1978; Tregonning 1983).

Arthroscopic surgery differs from other innovations in several ways. Firstly, the technique is difficult and requires patience with telescopes and fine cutting instruments quite different from the osteotomes and drills of conventional orthopaedic surgery. New visuospatial skills are needed, and expertise with a hammer does not guarantee success with an arthroscope. Secondly, while the placement of a total joint prosthesis or the screws and plates of internal fixation can be seen and criticised radiologically, arthroscopic surgery cannot be documented so easily and the only chance for assistants and observers to watch an arthroscopic operation is by television, which is expensive and may not be available. Because of this, the surgeon must be his own teacher and critic, which is always unsatisfactory. Finally, and perhaps most important, the principles upon which arthroscopic surgery is based often run counter to generally accepted concepts of knee pathology and this has led to an unfortunate division between "traditional" knee surgeons, who believe that sound clinical judgement makes arthroscopy unnecessary, and arthroscopists who believe that they are more self-critical and objective than their predecessors.

Because arthroscopic surgery cannot easily be documented, contradicts traditional teaching and has responded to the "market pressures" of private practice and sports medicine, its popularity has sometimes caused discomfort in academic circles, as well as among surgeons whose reputation was built without the help of an arthroscope. Nevertheless, arthroscopic surgery is still gaining in popularity (Goodfellow 1983). It is to be hoped that university departments of orthopaedic surgery will now add constructively to the publications on arthroscopic surgery and function as auditors for the sometimes extravagant claims made for it. Can abrasion chondroplasty, for example, by removing 0.5 mm of cortical bone from osteoarthritic joint surfaces, really reverse the degenerative process? Does the synovial shelf syndrome exist? Can the removal of a few tags of degenerate meniscus bring lasting improvement to patients with degenerative joint disease? Without properly prepared studies that are both authoritative and impartial, it is impossible either to prove or disprove such claims and the publication of sound clinical reviews is therefore of great importance.

A further problem arises in ensuring that arthroscopic surgery is practised correctly and responsibly. Proper teaching is essential if serious complications, such as division of the popliteal vessels leading to amputation, are to be avoided (Jackson 1983), though however well the subject is taught there will always be people with faulty equipment, as reported by Henderson and Hopson (1982) or poor clinical judgement (Joyce and Mankin 1983). If the popliteal artery is divided during osteotomy, few people would blame the osteotome, but it will be many years before the same objectivity will be applied to

the arthroscope. Until then, orthopaedic trainers at all levels must work even harder to ensure that arthroscopic surgery is practised wisely and well and in this respect the International Arthroscopy Association has played an important part by arranging instructional courses around the world in countries where the technique is gaining popularity.

Despite the advantages it can offer the patient, no surgeon should feel compelled to learn arthroscopic surgery against his wishes. There is ample room for several levels of expertise: some surgeons may wish only to perform diagnostic arthroscopy to confirm their diagnosis; this will not only improve clinical acumen through the feedback of arthroscopy, but should also avoid the removal of normal menisci and, through knowledge of the exact pathology, reduce the size and thus the surgical trauma of arthrotomy. Others may confine their arthroscopic surgery to straightforward procedures such as the removal of meniscal flaps and loose bodies, or synovial biopsy. Some will wish to have nothing whatever to do with either arthroscopy or arthroscopic surgery, and can act as a control group for clinical investigations. At the other extreme, there are surgeons who restrict their practice to arthroscopic surgery alone, but to base clinical practice on an instrument has never been satisfactory in the past and it seems likely that arthroscopic surgery as a separate entity will gradually be absorbed into knee surgery as the technique becomes generally accepted. Whatever their attitude towards arthroscopy, all surgeons with an interest in the knee would be well advised to maintain a healthy scepticism towards the claims made by both the arthroscopic and the "traditional" schools of knee surgery, and try to base their opinions on the analysis of published results alone. Only time will determine how many of the operations now performed with such enthusiasm are truly worthwhile and until the long-term results of arthroscopic surgery are published and available for scrutiny, the surgeon is in uncharted waters.

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REFERENCES