Arthroscopy in the Elderly

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SUMMARY: Arthroscopy of the knee is an accepted and widely practised diagnostic and therapeutic procedure. The role of arthroscopy in the elderly is examined in this study. The benefit of debridement in the control of symptoms in the degenerative knee even in this elderly population is demonstrated. Arthroscopy produced an improvement in 62.3% of patients and in those whose knees were being assessed for osteotomy or arthroplasty 55% have avoided further surgery.

Introduction

Arthroscopy is a commonly performed procedure, mainly in the young used in the management of suspected internal derangements. Previous studies have investigated the role of arthroscopy in the middle aged (1, 2) or those with degenerative disease (3, 4). Dandy (5) in a recent editorial in the *Journal of Bone and Joint Surgery* reviewed the place of arthroscopic debridement of the osteoarthritic knee. He concluded that many questions remain unanswered about the indications and exact extent of arthroscopic surgery in the arthritic knee.

Richards and Longeran (6) reported that patients who were elderly and those with extensive disease did less well with arthroscopic surgery. Livesley and co-workers (7) have shown simple arthroscopic lavage to be of benefit.

The present study investigates the role of arthroscopy when used in the management of the elderly knee. The results of different arthroscopic procedures in those aged over sixty, often with extensive degenerative disease, is assessed.

Patients and Method

Between 12 July 1985 and 28 November 1989 sixty-six patients aged sixty and over underwent arthroscopy at Princess Mary's Royal Air Force Hospital, Halton. Fifty six complete case notes and follow up were available for study relating to sixty-nine arthroscopies performed during sixty-one admissions. The average age at arthroscopy was 69.0 years (range 60 years 4 months to 82 years). Thirty one of the patients were male, there were 36 left knees and eight cases were performed bilaterally.

Four cases were performed under local anaesthetic and a further ten without tourniquet. Nine knees had undergone previous surgery, seven previous arthroscopies, one open meniscectomy and one patellectomy.

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The indications for arthroscopy were considered to be:

- Group (i) Assessment of the joint surface prior to proposed osteotomy or arthroplasty. Forty patients (58%).
- Group (ii) Suspected internal derangement where further surgery was not being considered. Ten patients (14.5%).
- Group (iii) Those with known degenerative disease where further surgery was precluded by ill health. Sixteen patients (23.2%).
- Group (iv) Significant knee symptoms in patients being considered for hip arthroplasty. Three patients (4.3%).

The average inpatient stay was 4.7 days, 1.6 days spent pre-operatively (1-6 days) and 3.1 days spent postoperatively (1-17 days).

Five patients had surgery deferred at pre-operative assessment due to pre-existing medical conditions - 2 with hypertension, 2 with renal impairment and one with diabetes.

There were two peroperative complications - minor acid reflux and transient hypotension.

There were eight postoperative effusions with prolonged inpatient stay.

Review was at the most recent clinic, at the time of discharge from follow up or when further surgery was performed. Mean follow up was 18.4 months (12-44 months). Results were assessed at the time of the most recent review. The patient being questioned directly about the overall result of surgery and their satisfaction with surgery.

Results

Twenty-eight patients were found to have meniscal damage felt by the operator to represent significant degenerative cleavage tears in an otherwise normal meniscus in

an osteoarthritic joint compartment. These were managed by saucerization or subtotal meniscectomy. In twenty-four knees degenerative meniscal damage was more widespread. Debridement with removal of meniscal fibrillation and chondral flaps with subsequent washout of the knee with at least one litre of saline was performed. In seventeen knees other pathologies were found such as loose bodies or enlarged fat pads.

The majority of knees had evidence of degenerative disease (92.8%) and the distribution is displayed in Table 1. In males medial compartment osteoarthritis in isolation was most frequently encountered (50%) whereas in females bicompartamental osteoarthritis was commonest (48.3%). Overall the medial compartment was most frequently involved - 87.5% of males, 90% of females the lateral being involved in 40% of men and 72.4% of women.

Table 1.

Distribution of Osteoarthritis

		Latr'l		Medial		Bilat		Tricomp		Nil	
		N	%	N	%	N	%	N	%	N	%
Male	40	1	2.5	20	50.0	10	25.0	5	7.2	4	10.0
Female	29	2	6.9	7	24.1	14	48.3	5	17.2	1	3.4
Total	69	3	4.3	27	39.1	24	34.8	10	14.5	5	7.2

The patients subjective response to surgery is summarized in Table 2 and the patients final outcome in Table 3. Of the 24 patients who subsequently underwent further surgery 10 have had total knee replacement, 5 tibial osteotomy, 4 repeat arthroscopy, 3 total hip replacement and 2 knee fusion.

Table 2.

Patients Subjective Response

By Operation	Post-operative Response										
	Asympto- matic		Improved		Temp Improve		No Change		Not Known		
	N	%	N	%	N	%	N	%	N	%	
Meniscectomy	6	21.4	9	32.1	3	10.7	9	32.1	1	3.6	
Debridement	7	29.2	9	37.5	4	16.7	3	12.5	1	4.2	
Other	5	29.4	7	41.2	2	11.8	3	17.6			
by OA:-											
Nil	5	4	80.0					1	20.0		
Lateral	3			3	100						
Medial	28	9	32.1	11	39.3	2	7.1	5	17.9	1	3.6
Bilateral	23	3	13.0	8	34.8	6	26.1	6	26.1		
Tricomp	10	2	20.0	3	30.0	1	10.0	3	30.0	1	10.0
By indication											
Group (i)	40	5	12.5	14	35.0	9	22.5	10	25.0	2	5.0
Group (ii)	10	6	60.0	2	20.0			2	20.0		
Group (iii)	10	7	43.7	8	50.0			1	6.3		
Group (iv)	3			1	33.3			2	66.6		
Total	69	18	26.1	25	36.2	9	13.0	15	21.7	2	2.9

Table 3.
Patient Outcome

By operation	Discharge		Further Surgery		Follow Up		Lost Follow-Up	
	N	%	N	%	N	%	N	%
Meniscectomy	7	25.0	13	46.4	7	25.0	1	3.6
Debridement	8	33.3	6	25.0	5	20.8	5	20.8
Other	5	29.4	5	29.4	4	23.5	3	17.6
By indication								
Group (i)	9	22.5	18	45.0	7	17.5	6	15.0
Group (ii)	5	50.0	2	20.0	1	10.0	2	20.0
Group (iii)	6	37.5	1	6.3	8	50.0	1	6.3
Group (iv)			3	100.0				
Total	20	29.0	24	34.7	16	23.2	9	13.0

Discussion

After arthroscopy 62.3% of patients were improved or asymptomatic. The best results were obtained in those patients with definitive pathologies other than meniscal, such as loose bodies, which were corrected at arthroscopy - 70.6% of patients having a good result. Partial meniscectomy in degenerative cleavage tears produced the poorest symptomatic improvement, 46.8% receiving no benefit.

As expected those without arthritis or with unicompartmental disease did better than those with more extensive changes. Seventy five percent of those with no or unicompartmental osteoarthritis being improved whereas only 48.5% of those with more extensive disease having a good result.

Only 47.5% of those for whom arthroscopy was performed as an assessment prior to further surgery were improved but in this group to date 55% have avoided arthroplasty or osteotomy due to symptomatic control. Of those who underwent arthroscopy for symptomatic control as further surgery was not being considered 93.7% had a good result and the only patient undergoing further surgery elected to have a repeat arthroscopy. There were poor results obtained when arthroscopy was performed for those with hip disease and all of this group went on to hip arthroplasty. This study suggests that arthroscopy is of benefit in the elderly. Better results are achieved in unicompartment osteoarthritis and with minimal surgery to the meniscus. This form of surgery can be performed in the unfit where arthroscopy can be undertaken without tourniquet in vascular disease or under local anaesthetic. The length the symptomatic improvement has not been demonstrated by this study but many patients request repeat arthroscopy rather than arthroplasty.

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