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# **A study of the effect of abrasion arthroplasty for treatment of osteoarthritis of the knee joint**

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In this study we have discussed the histology of adult articular cartilage, pathology, aetiology, clinical picture, and diagnosis of osteoarthritis. Different lines of treatment were mentioned, which included conservative and surgical lines. The surgical options for gonarthrosis are upper tibial osteotomy, joint debridement, unicompartmental knee replacement, total knee replacement, abrasion arthroplasty, upper tibial osteotomy and abrasion arthroplasty, cortical drilling and cortical drilling in conjunction with upper tibial osteotomy. We studied the results of abrasion arthroplasty on 41 patients, 36 were finally followed up with a mean age of 56 years. Mean follow up period was 18 months. 72.2% of patients showed satisfactory results. The best results were obtained in the following patient: a normal weight, aged from 40-50 years old, grade IV gonarthrosis, accompanied by high tibial osteotomy and postoperative use of CPM. Rate of success in such patient reaches 85% or higher. Postoperative mean range of motion was (0-128 degrees). This operation allows the patient with grade IV to move his knee nearly fully, to squat, to kneel, and to sit on the floor which are very important daily activities of oriental people, for whom we recommend this procedure as the main surgical line of treatment rather than total knee replacement, which does not reach the same functional result. Abrasion arthroplasty is a satisfactory procedure for management of grade IV gonarthrosis which provides the patient with a good range of motion nearly full, which is very important in the daily life of the oriental people. Postoperative CPM is preferable and this improves the result, relieves pain and accelerates achieving full flexion. Every effort should be taken to reduce the weight prior to surgery as the results worsen by overweight. In degenerative arthritis with genu varum the overall result improves to a great extent by addition of high tibial osteotomy and such a procedure can be performed either in the same session or can be delayed. Range of motion after abrasion arthroplasty is better than after total knee replacement, and this is highly important in the daily activity of oriental people. Following the statistical analysis using Z test, the overall results proved to be highly significant. The result of the age groups from (40-50 years), (50-60 years) and (70-80 years) were significant, while less than 40 years and (60-70 years) were not significant. Difference in weight and sex did not affect the results significantly. Postoperative mobilisation gave highly significant results. The results of abrasion arthroplasty combined with HTO were significant.