ARTHROSCOPIC DEBRIDEMENT IN OSTEOARTHROSIS OF KNEE JOINT-ANALYSIS OF SHORT TERM BENEFITS

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ABSTRACT: BACKGROUND: Many studies have reported symptomatic relief after arthroscopic debridement of knee for osteoarthrosis. The purpose of the study is to find out the outcome of arthroscopic debridement in osteoarthrosis of knee and to arrive at a consensus regarding the subsets of patients with osteoarthrosis who will benefit from the procedure. MATERIALS AND **METHODS:** 30 patients with osteoarthrosis were subjected for arthroscopic debridement. Patients included were of age greater than 50 years. Standard antero-posterior and lateral radiographs of knee were taken and grading was done using Kellegren and Lawrence system. Arthroscopic grading was done using the Outer bridge classification. Outcomes were assessed at multiple intervals over a 12 month period with a knee score and a functional score. **RESULTS:** Results were analyzed based on Knee society clinical rating system (1989). At the end of 1month 86.6% had excellent to good results. At the end of 6 months 60% had excellent to good results. At the end of 1 year 37.6% had excellent to good results. At six months follow up results was also evaluated based on different variables-varus deformity, radiographic and arthroscopic grading. Patients with malalignment more than 10 degrees and those with radiographic grading 3 or more were associated with poor results. **CONCLUSION**: Patients with mild to moderate osteoarthrosis benefitted with excellent to good results from the procedure. Results were good and long lasting particularly if there was minimal or no malalignment of knee or there was associated mechanical restriction of movement due to meniscal tear or loose bodies.

KEYWORDS: Arthroscopic debridement, Osteoarthrosis, Knee society clinical rating system, Varus deformity, Radiographic grading, Arthroscopic grading, Meniscal tear, loose bodies.

INTRODUCTION: Osteoarthrosis is a progressive degenerative joint disease. Osteoarthrosis was the term originally proposed by John Spender in 1886.Arthritis deformans as proposed by Heine.¹ in 1926 was for many years considered a synonym for osteoarthrosis in European medical community.

The World health organization estimates that osteoarthrosis is a cause of disability in at least 10% of population over 60 years of age.² Statistics suggest that 80% of people more than 50 years old have osteoarthrosis with spine, hip and knee the most frequently affected joints.

When medical therapy fails to relieve the pain of osteoarthrosis of knee, arthroscopic debridement can be done. But there is no clear idea as of which subsets of patients with osteoarthrosis of knee will benefit from arthroscopic debridement.

MATERIALS AND METHODS: A total of 30 patients were studied during a time period of 3 years from 2010 to 2013. There 14 males and 16 females. Right knee was involved more than left knee. All patients were of the age greater than 50 years. Patients with secondary osteoarthrosis were excluded from study. A thorough history was taken and clinical examination was done.

ORIGINAL ARTICLE

Standard anteroposterior and lateral radiographs were taken and grading was done using the Kellegren and Lawrence system.

PROCEDURE: Patient in supine, tourniquet applied with knee flexed to 70 degrees, a longitudinal stab incision made lateral to the patellar tendon anterolateral portal and on medial side anteromedial portal. Following compartments were examined preoperatively-suprapatellar pouch, medial compartment, medial parapatellar gutter, lateral parapatellar gutter, patellofemoral joint, inter condylar notch, lateral compartment. Our debridement procedure included joint lavage, removal of discrete loose bodies, partial meniscectomy or judicious chondroplasty. Articular cartilage degeneration was graded according to the Outerbridge arthroscopic classification. Post-operative dressing in the form of compression bandage was removed the next day. Antibiotics and analgesics were given post operatively. Quadriceps and hamstring strengthening exercises were started from the first post-operative day and patient made to walk the same day with the help of walker.

RESULTS: Results were analyzed based on Knee society clinical rating system. This consisted of knee score and a functional score. At six months follow up results were also evaluated based on different variables like varus deformity, radiographic grading and arthroscopic grading. At the end of one month 86.5% had excellent to good results.

At the end of six months 60% had excellent to good results and at the end of one year 37.6% had excellent to good results. At six months follow-up, patients with varus angulation less than ten degrees had good results compared to those with greater than ten degrees angulation. Those patients with osteoarthrosis who were graded as one and two as per radiologic and arthroscopic classification had better results compared to those in advanced stages after the procedure.

DISCUSSION: The most important factor in determining success is proper patient selection. In patients with early osteoarthrosis with minimal or no malalignment of knee and those who had mechanical symptoms (Due to loose bodies or meniscal tears) improved fairly well after the procedure. Previous studies underline the importance of minimal axial limb malalignment and biomechanical stable joints in achieving good results.^{3,4} A study stated that patients with mechanical irritants such as loose bodies or degenerative meniscal tears are more likely to benefit from arthroscopic lavage and debridement.⁵

Similar study in 2002 found that arthroscopic debridement has a favorable outcome in selected patients.⁶ Decrease of the knee pain level was the most common short and medium term result obtained in selected patients by performing arthroscopic debridement in osteoarthrosis.

All patients should be informed that arthroscopic lavage and debridement is not a cure, but merely comprise temporizing therapeutic method that can give significant relief of discomfort in most cases.

CONCLUSION: Arthroscopic lavage and debridement is an effective short term method of treatment for osteoarthrosis knee in properly selected patients. Patients in early stage of osteoarthrosis benefitted from the procedure better than those in late stages. Poor results were seen in patients with malalignment. Patients with symptoms of pain and locking due to loose bodies or degenerative meniscal tears benefitted maximum from arthroscopic debridement.

ORIGINAL ARTICLE



Pre- Operative X-ray



Intra Operative Images

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ORIGINAL ARTICLE

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