Meniscus Repair in Patients Over the Age of 40: Complications and Outcomes

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INTRODUCTION:
Meniscal tears are a common injury encountered by orthopaedic surgeons. An estimated meniscal tear rate is approximately 8 per 1000 person-years. Meniscal tears can lead to pain, decreased function of the knee, an increased rate of OA (osteoarthritis), and joint space narrowing in the affected knee. Meniscal tears can also lead to decrease function, activity level, and overall health decline for the patient.
Surgical resection of the damaged meniscus, also termed meniscectomy, or partial meniscectomy, has been the apparent treatment for meniscal tears in the past. However, there is data showing increased rates of articular damage, and radiographic changes to the knee joint from this procedure. There is strong evidence for repair over meniscectomy in younger patients, however literature is sparse regarding repair outcomes and reoperation rates for patients over the age of 40.
Therefore, the objectives of this study were to document patient-reported outcomes, complications, and reoperation rates for meniscus repairs in patients above the age of 40 and determine if patient demographics or injury characteristics correlated with reoperation.
METHODS:
A retrospective chart review was conducted at a single academic institution after obtaining IRB approval. An initial query of patients over the age of 40, was performed via the CPT code 29882. Inclusion criteria consisted of patient age greater than 40 at time of repair, and primary repair performed at our single academic institution. Exclusion criteria consisted of prior surgery in the ipsilateral knee, septic arthritis postoperatively, knee trauma postoperatively, and if the patient underwent a meniscal allograft transplantation. Patients that met inclusion criteria were chart reviewed for relevant data including demographic information, comorbidities, surgical procedure information such as type of implant used, laterality of meniscus tear, type of tear and pattern, and revision / reoperation data. Patients were then contacted to answer full 100-point KOOS (Knee Injury and Osteoarthritis Outcome Score) questionnaires.
RESULTS:
A total of 413 total patients met inclusion criteria. The average age at time of surgery was 46 years (IQR 43-51), and 214 patients were female (51.8%). The following mean postoperative KOOS subscores were reported at an average 24-month follow-up (IQR of 3-62 months): Symptom score: 78.6 (60.7, 92.9). Pain score: 87.5 (69.4, 97.2). ADL score: 94.1 (82, 100). Sport score 80 (55, 95). QoL score: 68.8(40.6, 81.3). A total of 74 patients underwent reoperation (17.8%). There was no significant difference in reoperation rates when stratified by age group (40-49, 50-59, 60-69) P=0.515. Reoperation rates were not affected by type of implant used for initial meniscus repair (Fast-fix anchor, Omnispan meniscal anchor, Meniscal cinch implant, Fiberwire, MaxBraid suture, Ethibond suture, PDS suture or Bionics meniscal arrow) with a P-value>0.7. Average number of anchors used for repair was 2 (2,3) and did not correlate with reoperation (P=0.49). Additionally, location of initial meniscus tear, and tear pattern did not correlate with reoperation rates, (P>0.36, P>0.28 respectively). Forty-seven patients complained of postoperative stiffness and underwent lysis of adhesions and or arthroscopic debridement (P=.042). Twenty-five patients sustained a meniscal retear or injury, leading to reoperation with either partial or total meniscectomy. One patient developed postoperation infection which also led to reoperation and partial hardware removal. Of the total patient cohort, only seven patients ultimately went on to have a total knee arthroplasty (1.6%).
DISCUSSION AND CONCLUSION:
In conclusion, patients over the age of 40 who underwent meniscus repair showed favorable reported outcomes at greater than 1 year follow-up. Reoperation was associated with postoperative stiffness and repeat injury. Reoperation rates in patients over 40 are comparable to reported rates of younger patients who undergo meniscus repair, and did not correlate with type of implant used, tear pattern, or age. Clinicians can use this information to ensure appropriate patient stratification for meniscal repairs.