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Meniscus root repair: Clinical outcomes and joint preservation

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Introduction: Meniscal root tears, particularly of the posterior horn, compromise the meniscus's ability to distribute load, leading to increased joint stress and potential progression to osteoarthritis. Timely surgical repair is crucial to restore knee biomechanics and prevent degenerative changes. Recent studies have demonstrated that root repair may be the most effective treatment strategy in reducing joint space narrowing and improving patient-reported outcomes.

Objective: This study aims to present our clinical experience and outcomes in performing meniscal root repairs at Akfa Medline University Hospital.

Methods: We conducted a retrospective analysis of 13 patients (11 females, 2 males) who underwent meniscal root repair between January 2023 and December 2023. The median age was 54.5 years, and the median body mass index (BMI) was 29.4 kg/m². Among the female patients, 8 were postmenopausal. All patients underwent preoperative magnetic resonance imaging (MRI) and X-rays to confirm the diagnosis. Postoperative imaging was performed at 6 months and 1 year to assess healing and meniscal integrity. Clinical outcomes were evaluated using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and Visual Analog Scale (VAS) scores, recorded preoperatively and at 3 months, 6 months, and 1 year postoperatively.

Results: Postoperative imaging revealed a decrease in tibial plateau edema and synovitis. The mean VAS pain score decreased from 5.6 preoperatively to 2.2 at 3 months, 1.6 at 6 months, and 1.5 at 1 year postoperatively. The mean WOMAC score improved from 54.7 preoperatively to 85.3 at 1 year ($p < 0.001$). Radiological assessment showed no progression of osteoarthritis in 9 patients.

Conclusion: Our findings indicate that meniscal root repair significantly reduces pain and improves joint function over one year. The procedure is effective and joint-preserving, supporting its role in managing meniscal root tears and delaying osteoarthritis progression.

Biography

Akbarjon Mirzayev is a dedicated orthopedic specialist and researcher affiliated with Central Asian University, Uzbekistan. His clinical and academic interests center on advanced joint preservation techniques, particularly in the field of knee surgery. He has focused extensively on meniscus root repair, exploring its impact on clinical outcomes and long-term joint integrity. Through his work, Dr. Mirzayev contributes to improving surgical approaches that help delay or prevent osteoarthritis progression in patients with meniscal injuries. His commitment to evidence-based practice makes him a valuable contributor to the evolving field of orthopedic medicine in Central Asia.

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