

How Successful are the Results of Double-Vertical Meniscal Sutures?

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Summary:

Results of Arthroscopic Repair of Longitudinal Medial Meniscal Tears by Vertical or Double Vertical Sutures with Inside-out Technique.

Abstract:

Background:

Although in the literature there are many articles about arthroscopic repair of meniscus tears, there are no articles about the results of double-vertical sutures.

Purpose:

To present the mid-long term results of medial meniscus tears repaired with double-vertical sutures.

Study Design:

Cohort study; Level of evidence, 3.

Methods:

We evaluated the results of 112 longitudinal medial meniscal tears treated with inside-out vertical or double-vertical sutures, with or without ACL reconstruction, based on clinical resolution of symptoms, assesment of Lysholm's knee functional score with Tegner's activity score, and re-examination by magnetic resonance imaging (MRI) after the repair. All of 112 menisci were medial. The morphology of the meniscal tears included only longitudinal tears. 45 (40%) of them were extending both superior and inferior articular surfaces, 10 (9%) were extending only superior articular surface, 36 (32%) were extending only inferior articular surface and 21 of them were displaced bucket-handle tears (18%). The length of the tears was evaluated arthroscopically. 85 tears out of 112 were more than 2 cm in length, and 27 were tears of 2 cm or less. 89 of the 112 repairs (79.4%) were performed in conjunction with ACL reconstructions; the remaining 23(20.6%) repairs were performed in ACL intact knees.

Results:

The cases were evaluated after a mean follow-up of duration of 49.3 months (range 12 to 88 months). According to clinical and radiologic examination, we accepted 99 (89.4%) meniscal repairs as healed. The remaining 13 cases (10.6 %) were considered as failures. The Lysholm score improved significantly from the preoperative mean value of 63.8 to a postoperative mean value of 89.5 ($P<0.001$). Preoperatively the mean Tegner activity score was 3.3 whereas the postoperative mean value was 6.7 ($P<0.001$). We found concurrent ACL reconstruction, type of the tear, length of tear, and smoking as factors that can significantly effect the meniscal healing.

Conclusion:

Vertical or double vertical sutures with inside-out technique provides high rate of healing in longitudinal medial meniscal tears.

Key Terms:

Longitudinal medial meniscal tears - inside-out – double vertical suture – meniscal repair.