

Treatment of Isolated Ligamentum Teres (LT) Partial Tears By Debridement with the Addition of Capsular Tightening Prevents Tear Recurrence

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Summary:

Previously treatment of partial thickness Ligamentum Teres tears gave excellent outcomes, but was associated with a 17% tear recurrence rate. However the addition of anterior capsule tightening has maintained the excellent outcomes whilst completely eliminating tear recurrence at mid term follow up.

Abstract:

Introduction:

Ligamentum Teres (LT) is now recognized as an important structure of hip joint. The prevalence of LT tears in hip arthroscopies has been reported between 8% and 51%, and LT tears are clearly recognized as a cause of hip pain. The most commonly recommended method of treatment of LT tears is debridement, this has been shown to be reliable, improving symptoms and relieving pain, although we have previously reported the recurrence rate of isolated tears with debridement alone is 17%.

Our hypothesis is that the recurrence of LT tears is due to the persistence of ligamentous laxity and hip microinstability. We believe that to obtain a more stable joint by tightening the anterior capsule will diminish the recurrence rate of LT tears.

Methods:

Retrospective review of the surgical database from the senior author from June 2009 to August 2011. The indication for hip arthroscopy was patients with a history of hip pain, with or without mechanical symptoms, which did not respond to conservative treatment. The inclusion criteria were all the patients who underwent hip arthroscopy and had an isolated (no other intra-articular pathology) partial LT tear. Arthroscopically the tear was debrided with a thin flexible radiofrequency probe and the joint capsule was tightened either by radiofrequency shrinkage or suture plication. All the patients undergoing hip arthroscopy were prospectively assessed with the Modified Harris Hip Score (MHHS) and the Non Arthritic Hip Score (NAHS). Following surgery these Outcome Measures were repeated at 6 weeks, 6 months, and then annually.

Results:

1574 hip arthroscopies were performed by the senior author from June 2009 to November 2011, and in 684 (43%) LT tears were identified. Partial LT tears were present in 619 (90%) and complete LT tears were found in 65 (10%) hips. The overall incidence of LT tear identified at arthroscopy was 43%.

The subject of this study were isolated partial LT tears, and it was found in 27 hips (26 patients). The average age at the time of surgery was 24,4 years (range 12-45). 24 patients were female and 2 male. The average body mass index was 22,2 (range 16,9-29). The operated side was right in 17 patients and left in 10. Mean traction time was 20,6 min (range 11-42).

Over an average mid-term follow-up period of 13,4 months (range 6-24) MHHS and NAHS pre-operative outcome scores improved significantly from 65,2+13 (59,5-71) and 66,2+13,3 (60,4-72,1) to 89,3+11,6 (84,2-94,5) and 86,7+11 (81,9-91,5) respectively, $p < 0,05$. No revision surgery has been required for recurrent tear.

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Conclusion:

Treating the partial LT tears by radiofrequency debridement leads to an improvement in pain and function. By adding an anterior capsular tightening at the time of surgery, we were able to reduce the LT tear recurrence rate from the previous published 17% to 0% at a mid term follow-up.