

Treatment of Gluteus Medius and Minimus Tendon Tears with a Specific Diagnostic and Surgical Technique: A Retrospective Study of 67 Patients

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Summary:

Gluteus medius and minimus tears have been previously described as a source of the lateral hip pain. However, there is limited literature addressing the management of this condition. In this study, a specific clinical and radiological examination protocol, the double-row technique and possible risk factors were analyzed to determine their effect on the surgical treatment of these lesions.

Abstract:

Objectives:

We present the long-term results of surgical repair of gluteus medius and minimus tears with the use of suture anchors and double-row technique. The purpose of this retrospective study is to describe this technique, present specific diagnostic pathways and examine the possible risk factors that could affect the final outcome of this surgical treatment method.

Methods:

Between 2003 and 2010, seventy three patients were operated for gluteus medius and minimus tears with the use of suture anchors and a double-row technique. Pre-and postoperatively, the clinical assessment were performed using the Visual Analogue Scale for pain, Lequesne Index (for Severity for Osteoarthritis of the Hip) and Harris Hip Score. The clinical examination included the resisted external derotation test, 30 seconds single-leg stance test and resisted abduction test. Pain at high pace steps and the Verbal Scale for self-assessment of handicap were also estimated. The radiological evaluation was done by anteroposterior, lateral hip radiographs and Magnetic Resonance Imaging of the pelvis and the involved hip. Age, bone mass index (BMI), muscle atrophy and fatty degeneration were examined as possible risk factors in the long-term treatment outcome.

Quantitative data were recorded and statistically analyzed with the use of Student t-test for unpaired and paired samples. Qualitative data were analyzed with the use of Pearson chi-square and Fisher's exact tests. Significance levels were set at $P < 0.05$ with confidence intervals at 95%. All tests were calculated using the SPSS Inc. Data Access Pack for Windows, version 17.0.1.

Results:

Six patients had been lost at the final follow-up. The outcome for 67 patients (70 hips, 37 left and 33 right) was reviewed. The mean duration of follow-up was 4.6 years (range 1-8). Resisted external derotation, resisted abduction and 30 seconds single-leg stance tests showed high sensitivity and specificity in the diagnosis of gluteus medius tears. Trendelenburg sign seems to be not as reliable for the diagnosis. The age, BMI and muscle fatty degeneration seems to be not risk factors in the treatment outcome. In contrast, muscular atrophy had a negative impact on the therapeutic effect and possibly constitutes a risk factor.

Conclusions:

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The use of double-row fixation technique gave entirely satisfactory long-term results. The proposed specific diagnostic tools provide an early and accurate diagnosis of gluteus medius and minimus tears. Muscular atrophy should be carefully considered in the preoperative decision for surgery.