

In-Depth Oral Presentations and Oral Communications

IN-DEPTH ORAL PRESENTATIONS

A01-ARTHROSCOPY

Comparative analysis between clinical tests and arthroscopic investigation in meniscal tears associated with anterior cruciate ligament injury

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Introduction The combined meniscus and anterior cruciate ligament (ACL) tears are commonly reported sport-contact injuries of the knee. The clinical maneuvers more adopted for identifying the meniscus injuries are McMurray test, Apley test, medial and lateral joint lines tenderness (JLT). The purpose of our study is that to evaluate the correlation between clinical examination and arthroscopic findings in associated acute meniscus and ACL injuries.

Materials and methods One hundred and thirty seven patients with a mean age of 28.5 years (from 12 to 55), out of one hundred and seventy initially included, were retrospectively examined for acute ACL and meniscus traumatic injuries (from 6 to 8 weeks by the trauma), between March and November 2012 at our department. Clinical examination included McMurray test, Apley test and medial and lateral JLT. Then, the clinical tests were compared to the arthroscopic findings in order to estimate their sensitivity, specificity, accuracy, and lastly their positive and negative predictive value.

Results We had found that the Apley test achieved a sensitivity of 51 and 48 %, a specificity of 84 and 79 % for medial and lateral meniscus tears, respectively. The McMurray test reached a sensitivity of 75 and 68 % while the specificity was 76 and 61 % for medial and lateral meniscus tears, respectively. The medial JLT had a sensitivity of 77 and 58 % and a specificity of 66 and 52 % for medial and lateral meniscus tears, respectively. Lastly, the lateral JLT achieved a sensitivity of 39 and 40 % and a specificity of 84 and 83 % for medial and lateral meniscus tears, respectively. Focusing on the accuracy, for the McMurray test it was 76 and 64 %, while for the Apley test it was 70 and 68 % in medial and lateral meniscus tears, respectively.

Discussion We had demonstrated that the accuracy of the clinical examination is reduced in associated meniscus and ACL tears. However, the clinical tests achieved a sensitivity and a specificity as those reported by scientific evidence using MRI.

Conclusions The associated meniscus and ACL injuries decrease the accuracy of the clinical tests for identifying the meniscus tears. The clinical tests can provide diagnosis of high suspicious, bypassing second level investigation, such as MRI, which cannot guarantee a

better accuracy. Arthroscopic investigation remains the gold standard for diagnosis of the meniscus tears.

A02-TRAUMATOLOGY

Intramedullary nail versus arthroplasty: a prospective study for the treatment of borderline fractures of the upper femur

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Introduction The ideal treatment of borderline fractures of upper femur is matter of scientific debate. This multicenter prospective study was carried out to evaluate the outcome of intramedullary (IM) nail versus arthroplasty in patients with borderline fractures of the proximal femur.

Materials and methods We assessed 4- and 12-month mortality, walking ability, and activities of daily living (ADL scale) in 166 patients (42 males and 124 females; mean age 78.8 ± 10 years) who underwent IM nailing (100 cases) or arthroplasty (66 cases) for AO-ASIF 31B2.1 hip (52 cases) or AO-ASIF 31-A1.1 and 31-A1.2 trochanteric fracture (114 cases) between January 2010 and January 2012 at our departments. Models of linear and logistic multivariate analysis were constructed to evaluate the effect of the surgical treatment (IM nail or arthroplasty) on functional outcomes and mortality, adjusting the analysis for age, gender, type of fracture, co-morbidity (CIRS scale), cognitive functioning (MMSE), and pre-fracture functional level.

Results The overall mortality at 1 month, 4 months, 12 months was 2.4, 10.8 and 15.7 %, respectively. Fifty-three percent of patients treated with IM nail and 36 % of those treated with prosthesis walked independently without aids 12 months after the fracture ($p = 0.007$). Forty-five percent of patients in both therapeutic groups obtained the maximum score on the ADL scale 12 months after the fracture. At the multivariate analysis, arthroplasty was associated with higher 4-month (O.R. = 11.9; 95 % C.I. = 2.7–52.0) and 12-month (O.R. = 5.3; 95 % C.I. = 1.7–16.5) mortality and with poorer 12-month walking ability ($c = -0.5$; $p = 0.006$) when compared to IM nail. Negative effect of the age and of a poor pre-fracture cognitive and functional status on mortality and functional outcomes was also detected. The incidence of local complications and revisions was slightly higher in the IM nail compared to the arthroplasty group.

Discussion This is the first prospective comparative study evaluating IM nailing versus arthroplasty for the treatment of borderline fractures of the proximal femur with the use of an expanded set of validated explanatory and outcome variables.

Conclusions IM nail was superior to arthroplasty on 12-month mortality and walking ability.