Paper #200

The Treatment of Acquired Patella Baja With Proximalization of the Tibial Tuberosity: Surgical Technique and Six Year Clinical Outcome

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Summary:
Acquired patella baja may be the result of trauma, chronic quadriceps tendon rupture and TKA. Restoring the normal position of the patella is mandatory for obtaining physiological patellofemoral tracking. A series of patients with patella baja, treated with proximalization of the tibial tuberosity, achieved satisfactory outcomes in terms of pain relief and improved function, without major complic

Abstract:
Introduction
Acquired patella baja may be the result of trauma, including chronic quadriceps tendon rupture, or secondary to surgical procedures such as total knee arthroplasty or ACL reconstruction. Restoring the normal position of the patella is mandatory for obtaining physiological patellofemoral tracking. Failure to address patella baja may result in decreased range of motion of the knee, extensor lag, anterior knee pain, increased energy expenditure, and rupture of the patellar or quadriceps tendons. Multiple options are available to treat patella baja, depending on the cause, including tibial tubercle osteotomy with proximal displacement.
Methods
Between 1998 and 2011, a proximalization of the tibial tuberosity was performed in sixteen patients (seventeen knees) with patella baja diagnosed on lateral x-ray. Each patient was evaluated with a pre and post-operative Blackburne-Peel ratio. Clinical outcomes were measured using pre-operative and post-operative Tegner Lysholm knee scoring scales, the WOMAC questionnaire and the short form 12 (SF-12), as well a visual analogue score (VAS) pain scale.
Results
seventeen proximalizations of the tibial tuberosity were performed, with a mean follow-up period of 69 months (28 to 158 months). The mean patient age was 54 years (range, 27 to 77 years), with a mean pre-operative Blackburne-Peel ratio of 0.43 (range, 0.1-0.6). Post-operatively, the Blackburne-Peel ratio was improved to a mean of 0.97 (range, 0.76-1.16), which was associated with significant improvement in the Tegner Lysholm knee scoring scale (from 13.33±12.95 to 86.7±10.43 points) (p < 0.0001). Quality of life, as measured using the SF-12 outcome, also improved significantly (p < 0.0001), as did all WOMAC questionnaire score subscales (p < 0.0001). The VAS preoperative status for pain improved from 8.3±2.02 to 1.5±1.83. No patient had a complication of delayed or nonunion of the osteotomy site.
Conclusions
A series of patients with patella baja, treated with proximalization of the tibial tuberosity, achieved satisfactory outcomes in terms of pain relief and improved function, without major complications. To our experience, this surgical technique may be performed without with good medium term results.