

Operative treatment of periprosthetic supracondylar femoral fractures

Oskari Leino, Keijo Mäkelä

Turun Yliopistollinen sairaala

Background and aims

Periprosthetic supracondylar fractures after total knee arthroplasty (PSF) are often associated with poor bone stock, fracture comminution, and loose components. Current operative methods include plating, intramedullary nailing and re-arthroplasty. The aim of the study was to assess the outcome of operatively treated PSFs at our institute with special interest on the use of strut grafts in association with plating.

Materials and methods

68 patients operated between 2000 and 2010 were included in the study. The data of these patients were retrospectively collected and followed up until the end of October 2011. Fractures with a fixed prosthesis component were treated using internal fixation provided that there was enough bone for osteosynthesis in the distal fracture fragment (39 patients). Fractures with a loose prosthesis component were treated using re-arthroplasty (29 patients). The demographics of the two treatment groups did not differ significantly. Death or any re-operation was chosen as the endpoint of follow-up.

Results

There was no significant difference between the treatment groups regarding clinical outcome. A positive clinical outcome was reported in 52 cases (88.1%). The survival of both laminofixation and re-arthroplasty was 75% at three years, but the survival of laminofixated fractures with strut graft was 80% compared to that of 51% without strut grafts. 16 patients (24%) had a post-operative surgical site complication: 7 infections (10%), 6 non-unions (15%) and 3 patellar dislocations (11%).

Conclusions

Complications were relatively common in these mainly elderly female patients. The survival percentages of the re-arthroplasty and laminofixation groups were similar. The use of strut grafts in association with plating may decrease re-operation rate.