Comparison of early clinical results for the femoral neck system and cannulated screws in the treatment of unstable femoral neck fractures

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Abstract

Objective: To compare early clinical effects of the femoral neck system (FNS) and three cannulated screws for the treatment of patients with unstable femoral neck fractures. Methods: A retrospective analysis with pair matching of 81 patients who received FNS or cannulated screw internal fixation for Pauwels type-3 femoral neck fracture in our hospital from January 2019 to December 2019 was conducted. Patients who received FNS were the test group, and those who received cannulated screws comprised the control group. Matching requirements were as follows: same sex, similar age and similar body mass index (BMI). A total of 30 pairs were successfully matched, and the average age was 53.84 years. The operation time, intraoperative blood loss, hospital stay, hospitalization cost, postoperative visual analogue scale (VAS) score, time to walking without crutches, Harris score, femoral head necrosis rate and complication rate were compared between the groups. Results: Postoperative re-examination of radiographs showed satisfactory reduction in all patients, and all patients were followed up for 10-22 months. Those in the FNS group had lower postoperative VAS scores, earlier times to walking without crutches, higher Harris scores at the last follow-up and lower complication rates (P<0.05). However, intraoperative blood loss and hospitalization costs were greater in the FNS group (P<0.05). No statistically significant difference in operation time, hospital stay or femoral head necrosis rate was observed between the two groups (P>0.05). Conclusion: For patients with unstable femoral neck fractures, FNS has better clinical efficacy than cannulated screws, though it is also more expensive. The excellent biomechanical performance and clinical efficacy of FNS make it a new choice for the treatment of unstable femoral neck fractures.