

Outcomes in Young Adult Patients with Intracapsular Femoral Neck Fractures

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Purpose: Recent systematic reviews on younger patients with intracapsular femoral neck fractures have reported that fewer than half of studies reported any functional or health-related quality of life data. Of these, only 1 study has reported outcomes beyond 2 years postoperatively. A greater understanding of the longer-term outcomes of these injuries is of paramount importance to both patients and surgeons. The primary aim of this study was to evaluate short- and longer-term outcomes for young adult patients undergoing intracapsular femoral neck fracture fixation. The secondary aim was to assess factors associated with healing complications and patient-reported outcomes.

Methods: From 2008 to 2018, we retrospectively identified 112 consecutive patients (mean age 48 years [range, 20-60], 54% male). Complications relating to union and fixation (loss of fixation, nonunion, osteonecrosis) were determined from medical records and radiographs. Long-term patient-reported outcomes were obtained via telephone survey and included the Oxford Hip Score (OHS), Forgotten Joint Score (FJS), EuroQol 5-Dimensions (EQ-5D)/ Visual Analog Scale (EQ-VAS), and UCLA Activity Scale.

Results: Union was achieved in 77% (n = 86 / 112) at a mean of 9 months (range, 3-87). There were 23% with failure of surgical management (n = 26 / 112), including loss of fixation (5.4%, n = 6 / 112), nonunion (4.5%, n = 5 / 112), and osteonecrosis (ON; 14.3%, n = 16 / 112). Time to surgery >24 hours (adjusted odds ratio [aOR] 0.282, P = 0.033) and fracture malreduction (aOR 0.095, P = 0.003) were independently associated with failure. Overall, 35% (n = 39 / 112) required secondary surgery, including metalwork removal (18.8%, n = 21 / 112), total hip replacement (THR; 18.8%, n = 21 / 112), or excision arthroplasty (1.8%, 2 / 112). Longer-term outcomes were obtained for 72% (n = 81 / 112) at a mean of 6.9 years (range, 2.8-12.8). The mean OHS was 41.4 (range, 4-48), FJS 63.3 (range, 0-100), EQ-5D 0.823 (range, -0.59 to 1.0), and EQ-VAS 79.5 (range, 5-100). The mean UCLA score fell from 6.8 preinjury to 6.0 post-injury (P<0.001). Patients with failure of surgical management had significantly lower OHS (33.8 vs 43.9, P<0.001), EQ-5D (0.621 vs 0.889, P = 0.001), EQ-VAS (68.4 vs 83.1, P = 0.01), and UCLA scores (4.5 vs 6.5, P = 0.001) compared with those who united. These outcomes were improved in patients following salvage THR.

Conclusion: Most young adult patients unite and reported satisfactory outcomes following fixation of their intracapsular hip fracture. However, 1 in 4 experience a complication, resulting in inferior long-term function and health-related quality of life. Time to surgery and fracture malreduction were independently associated with failure of surgical management.