Hip Fractures in the Young Patient: All Types Are Not Created Equal

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Purpose: Fractures of the femoral neck (FN) in young patients are known to be fraught with complications. However, very little is known about intertrochanteric (IT) femur fractures in the same population. While reasonably well defined in FN fractures, the rates of nonunion, malunion, revision surgery, and conversion to total hip arthroplasty (THA) for young IT fractures remain unknown. This makes accurately counseling patients problematic. The goal of this study is to compare the complication profile of FN and IT femur fractures in young patients. We hypothesized that complication rates would be lower in a young IT femur fracture cohort.

Methods: This is a retrospective cohort study conducted using a large, national private insurer claims database with longitudinal follow-up. Patients undergoing surgical fixation of an IT or FN fracture from 2010-2017 were identified. They were separated into 2 cohorts based on injury type. Patients were included if they were 18-50 years of age and had 1-year postoperative follow-up. Demographic data, comorbidities, and complications were collected from the database. Standard statistical comparisons were made between groups. Demographic and comorbidity data were then controlled for using multivariate analysis. Complication data, including a diagnosis of nonunion, malunion, and need for revision surgery at 1-year follow-up, were compared.

Results: 924 patients were identified: 464 patients (50%) with IT femur fractures and 460 patients (50%) with FN fractures. Mean patient age was 40 years for both fracture types and there was no statistical ly signficant difference in demographic or comorbidity data between the 2 groups. On multivariate analysis, FN fractures had nearly twice the risk of nonunion compared to IT femur fractures (odds ratio [OR] = 1.99; confidence interval [CI] 1.19-3.33). IT fractures had a 5.3% rate of nonunion, a 3.2% rate of revision surgery, and a 0.6% rate of conversion to THA at 1-year follow-up. In contrast, FN fractures had significantly higher rates of nonunion (10.7%; P = 0.009), revision surgery (9.3%; P = 0.001), and conversion to THA (6%; P <0.001) at 1 year.

Conclusion: There is little available literature to guide providers regarding the outcomes of IT femur fractures in the young patient. The results of this study demonstrate that IT fractures in young patients have superior outcomes when compared to their intracapsular counterparts. This is the only series of its kind to evaluate the complication profile of these injuries in younger patients on a large scale. This information will be helpful in counseling patients about outcomes and expectations in the perioperative setting.