

Medical Device Surveillance and Assessment

Annual Report

Feature Story:

Cemented Fixation Should be Considered in the Hemiarthroplasty Treatment of Displaced Femoral Neck Fractures

In a study published in *The Journal of the American Medical Association*, Kaiser Permanente Orthopedic Surgeons and Medical Device Researchers evaluated the association between femoral stem fixation technique (uncemented vs cemented) and outcomes for patients undergoing hemiarthroplasty for hip fracture.

“While prior studies have found cemented hemiarthroplasty to be associated with a lower revision rate, much of this research has been conducted in countries where cemented fixation is the norm. In this study, we found that cemented hemiarthroplasty was associated with a lower risk of revision even here in the United States, where uncemented fixation is the dominant form of fixation.”

– Kanu Okike, MD, MPH, Department of Orthopaedic Surgery,
Hawaii Permanente Medical Group, Honolulu, HI | Study Author

Study Details

Between 2009-2017, 12491 patients underwent hemiarthroplasty treatment of a hip fracture, with a constant 51.6% proportion of cemented fixation over time.

The primary outcome measure was aseptic revision, defined as any reoperation performed after the index procedure involving exchange of the existing implant for reasons other than infection.

Secondary outcomes were mortality, 90-day medical complications, 90-day emergency department visits, and 90-day unplanned readmissions.

Findings

- * Uncemented fixation was associated with a significantly higher risk of aseptic revision compared with cemented fixation (cumulative incidence, 3.0% vs 1.3% at 1 year after operation, respectively).
- * Although uncemented fixation was associated with higher aseptic revision rates in all age groups, the risk was higher among older patients (age >60).
- * There were no statistically significant differences in the risks of mortality, 90-day medical complications, 90-day ED visits, or 90-day readmission.

Post hoc analysis identified that the difference in aseptic revision rates was primarily due to a difference in the rate of postoperative periprosthetic fracture, which was significantly higher for uncemented fixation compared with cemented fixation (cumulative incidence, 1.6% vs 0.2% at 1 year after operation, respectively).

Practice Consideration

Findings suggest that surgeons should consider cemented fixation in the hemiarthroplasty treatment of displaced femoral neck fractures in the absence of contraindications.

