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Monitored Anesthetic Care is Associated with Shorter Length of Hospital Stay Following Total Hip Arthroplasty

Introduction: In the U.S., more than 450,000 total hip arthroplasties (THA) are performed each year. Anesthesia is an essential component of surgery; various modalities may differentially affect postoperative outcomes. The goal of this study was to assess anesthesia modality as a potential risk factor for increased hospital length of stay (LoS).

Methods: A retrospective cohort study was performed using the American College of Surgeons (ACS) National Surgical Quality Improvement Program (NSQIP) database. Cases involving primary THA performed between 2012-2020 were identified. Patients were assigned to cohorts based on anesthesia modality: monitored anesthesia care (MAC)/intravenous (IV) sedation or general anesthesia (GA). The primary outcome was hospital LoS. Potential confounders include patient demographics, baseline health status, and surgical parameters. Cohort differences were characterized using univariate analyses. Multivariable regression analysis adjusting for confounders was used to assess the effects of anesthesia modality on procedure-related complications.

Results: The analysis included 173,668 patients who underwent THA, with 40,408 (23.3%) receiving MAC/IV sedation and 133,260 (76.7%) receiving GA. In the GA group, the mean LoS was 2.16 days (SD 2.25). In the MAC/IV sedation group, the mean LoS was 2.69 days (SD 2.94). In both cohorts, the highest proportion of patients were aged 60-69 years, female, obese, White, non-Hispanic, ASA classification of 2, clean wounds, non-smokers, no immunosuppressive therapy, without diabetes, designated as elective cases, and had independent functional status prior to surgery. On multivariable regression analysis, MAC/IV Sedation compared to general anesthesia was associated with 0.835 times odds (95% CI 0.827 to 0.844; $p < 0.001$) of having longer LoS.

Conclusion: Compared to patients receiving GA, those receiving MAC/IV for THA had lower risk of longer hospital length of stay.