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Association Between Anesthesia Type and Postoperative Dementia Risk in Older Adults Undergoing Cataract Surgery

Abstract:

Background: Cataract surgery is increasingly common among older adults, but the type of anesthesia used, general versus local, may influence long-term cognitive outcomes. While local anesthesia is preferred due to reduced preoperative risks, its association with postoperative dementia remains unclear.

Objective: To examine the relationship between anesthesia type and the risk of developing unspecified dementia in older adults undergoing cataract surgery.

Methods: This retrospective cohort study used data from the TriNetX Global Collaborative Network, including 147 healthcare organizations. Patients aged ≥60 years who underwent cataract surgery with either general or local anesthesia were selected. After 1:1 propensity score matching, 18,845 patients were included in each cohort. The primary outcome was new-onset unspecified dementia (ICD-10: F03) diagnosed between 90 and 3,650 days post-surgery. Risk analysis and Kaplan- Meier survival analysis were conducted.

Results: The dementia incidence was significantly lower in the general anesthesia group (0.4%) compared to the local anesthesia group (1.3%). The risk difference was -0.9% (95% CI: -0.011 to -0.007, $p < 0.0001$), with a risk ratio of 0.301 and an odds ratio of 0.299. Kaplan-Meier analysis confirmed a lower risk of dementia in the general anesthesia group across all time points.

Conclusion: General anesthesia is associated with a significantly lower risk of developing postoperative dementia compared to local anesthesia in older adults undergoing cataract surgery. These findings warrant further investigation into anesthesia's long-term cognitive effects.

Biography

Nicole Chapman has completed her M.S at the age of 24 years from Georgetown University. She is currently enrolled as a second year medical student at Howard University College of Medicine in Washington D.C. Nicole's areas of interest include anesthesia, cardiology and geriatrics