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The association between the level of serum amyloid A and the occurrence of postoperative delirium in older adults undergoing hip surgery: a retrospective study

Postoperative delirium (POD) is a common and serious complication in older adults. Serum amyloid A (SAA) has been identified as a potential biomarker for various inflammatory conditions, but its role in POD has not been well studied. This study aimed to examine the association between preoperative SAA levels and the incidence of POD in older adults undergoing hip surgery and to explore other factors contributing to POD development. A retrospective review of electronic medical records was conducted for patients aged 60 and older who underwent hip surgery between April 2022 and January 2024. Cognitive function was assessed using the Nursing Delirium Screening Scale, and diagnosis was confirmed by psychiatrists using the Confusion Assessment Method. Preoperative and postoperative SAA levels, along with other patient, anesthesia, and surgical factors, were analyzed. Logistic regression models were used to determine associations with POD occurrence. Of 731 patients, 121 (16.6%) developed POD. Preoperative SAA levels were significantly higher in the POD group (91.2 mg/l) compared to the non-POD group (6.6 mg/l) (P<0.001). Preoperative SAA levels were independently associated with POD occurrence (odds ratio [OR] 1.005, P=0.001). Age and preoperative albumin levels were also found to be significant factors influencing POD risk. No significant difference was observed in postoperative SAA levels between the groups (P=0.756). Elevated preoperative SAA levels were associated with an increased risk of POD in older adults undergoing hip surgery. Further research is needed to explore the clinical utility of SAA as a biomarker for predicting POD.

Keywords: Serum amyloid A; Delirium; Older adult; Neuroinflammation; Cognition; Biomarker

Biography
Specialize in regional anesthesia, transplantaion anesthesia, and pediatric anesthesia.