

J Craniofac Surg. 2024 Aug 28. doi: 10.1097/SCS.00000000000010546. Online ahead of print.

Evaluation of Factors Influencing Postoperative Cognitive Dysfunction in Patients After Cranial Tumor Surgery

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PMID: 39194192 DOI: [10.1097/SCS.00000000000010546](https://doi.org/10.1097/SCS.00000000000010546)

Abstract

Background: The authors retrospectively analyzed the perioperative data of 81 patients who underwent cranial tumor surgery to explore the factors influencing POCD in patients after the surgery.

Methods: The authors evaluated preoperative cognitive dysfunction using the Mini-Mental State Examination (MMSE) score measured. For patients whose cognitive function was normal, the authors retrieved the MMSE score on the seventh day after surgery and compared it to determine whether the patients had POCD. The authors used a univariate logistic regression analysis to analyze the perioperative factors in patients, namely, age, gender, history of underlying diseases, tumor size, peritumoral edema, duration of surgery, blood loss, intraoperative fluid infusion, and type of anesthetic drugs. The authors then performed a multivariate logistic regression analysis for the statistically significant factors.

Results: The authors found that 23 of 81 patients (28.4%) developed POCD. Univariate logistic analysis showed that a history of diabetes mellitus, peritumoral edema, intraoperative blood loss, and anesthetic drugs were the risk factors for patients developing POCD after cranial tumor surgery. Multivariate logistic regression analysis showed that a history of diabetes mellitus, peritumoral edema, and use of ciprofol as the anesthetic drug were independent risk factors for POCD after cranial tumor surgery.

Conclusions: A history of diabetes mellitus, the degree of brain tumor edema, and the choice of anesthetic drugs significantly influence the occurrence of POCD in patients after cranial tumor surgery.

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