Postoperative delirium

- Sudden Neurologic Worsening
- Effect of perioperative haemodynamic management based on cerebral autoregulation monitored by Cerebral Oximetry Index during carotid endarterectomy: protocol of a randomised trial
- Restrictive versus Liberal blood transfusion strategies for patients undergoing orthopedic surgery: a meta-analysis of randomised trials with trial sequential analysis
- Effect of parecoxib on postoperative delirium in patients with hyperlipidemia: a randomized, double-blind, single-center, superiority trial
- The 3-Minute Diagnostic Confusion Assessment Method severity score correlates with the Delirium Rating Scale-Revised-98 and with biomarkers of delirium
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Postoperative delirium (POD) is a common complication, and it has a high incidence in neurosurgery patients with older age, longer ICU stay, and a neurologic deficit being consistent risk factors across inpatient settings ¹⁾.

Prediction

Postoperative delirium prediction refers to the process of using various tools, models, or assessments to estimate the risk of a patient developing delirium after undergoing surgery. Delirium is a temporary state of confusion and altered mental function that can occur after surgery, particularly in elderly patients or those with certain risk factors. Accurate prediction of postoperative delirium is valuable because it allows healthcare providers to take preventive measures and provide appropriate care to reduce the likelihood of its occurrence. Here are some key points related to postoperative delirium prediction:

Risk Factors Assessment: Healthcare professionals often start by assessing a patient's risk factors for delirium. These risk factors can include advanced age, pre-existing cognitive impairment, certain medical conditions, and the type and duration of surgery.

Prediction Models: Various prediction models and algorithms can be employed to estimate the risk of postoperative delirium. These models may use patient demographic information, medical history, and surgical details to make predictions. Machine learning techniques, such as logistic regression or more advanced models like random forests or neural networks, can be applied to analyze and predict the likelihood of delirium.

Clinical Scoring Systems: Some healthcare institutions use clinical scoring systems, such as the Confusion Assessment Method (CAM), to assess cognitive function and identify delirium in postoperative patients. These assessments are based on specific criteria, including acute changes in mental status and disturbances in attention. Preventive Measures: Predicting postoperative delirium is not only about identifying at-risk patients but also about taking preventive measures. This may involve optimizing a patient's preoperative health, managing medications carefully, ensuring adequate pain control, and maintaining a patient's orientation and cognitive function during the postoperative period.

Early Intervention: Early identification and intervention in cases of postoperative delirium can improve patient outcomes. Predictive tools help in identifying patients who are at risk, allowing healthcare providers to closely monitor and manage these patients in the postoperative period.

Research and Continuous Improvement: The field of postoperative delirium prediction is continually evolving as researchers refine existing models and develop new tools. Ongoing research is critical to improving the accuracy of predictions and the effectiveness of preventive strategies.

Patient and Family Education: Predicting and preventing postoperative delirium also involves educating patients and their families about the condition and the steps they can take to reduce the risk. This may include promoting good sleep hygiene, maintaining hydration, and engaging in activities to stimulate cognitive function.

In summary, postoperative delirium prediction is an essential aspect of perioperative care. It involves assessing patient risk factors, using predictive models, clinical assessments, and implementing preventive measures to reduce the incidence of postoperative delirium. Accurate prediction and early intervention can lead to better outcomes and improved patient care.

Postoperative delirium in spine surgery

Postoperative delirium in spine surgery.

A study identified the risk factors for postoperative delirium (PODE) in patients undergoing microvascular decompression (MVD) for the treatment of primary cranial nerve disorders.

He et al., retrospectively reviewed the data of 912 patients (354 men, 558 women) with primary cranial nerve disorders (trigeminal neuralgia, 602 patients; hemifacial spasm, 296 patients; glossopharyngeal neuralgia, 14 patients) who underwent MVD in the Neurosurgery Department of Lanzhou University Second Hospital between July 2007 and June 2018. Potential risk factors for PODE were identified using univariate and multivariate stepwise logistic regression analysis.Of the 912 patients, 221 (24.2%) patients developed PODE. Patients with PODE were significantly older and significantly more likely to be male than patients without PODE. A history of hypertension, preoperative carbamazepine therapy, and postoperative sleep disturbance and tension pneumocephalus were independently associated with PODE. Variables such as body-mass index, smoking and drinking habits, cardiac disease, diabetes mellitus, cerebrovascular disease, mean operative time, affected vessel, mean blood loss, postoperative intensive care unit stay, postoperative fever (>38°C), and routine laboratory results were not associated with PODE in there patients.PODE is a common complication after MVD, and is associated with multiple risk factors, including old age, male sex, hypertension, preoperative carbamazepine use, postoperative sleep disturbance, and tension pneumocephalus².

References

1)

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