Delayed Extubation

Decisions on the appropriate time of extubation after pediatric neurosurgery are often challenging for anesthesiologists. The primary goal was to investigate the incidence of delayed extubation after pediatric neurosurgery. The secondary goal was to identify the factors affecting delayed extubation in these patients.

A retrospective study was done on pediatric patients who underwent neurosurgery at a university hospital for a 5-year period from April 2015 to March 2020. Delayed extubation was that the patients who were not extubated at the end of the procedure before leaving the operating room. Demographic data and preoperative and intraoperative factors associated with delayed extubation were collected and analyzed.

Results: A total of 539 pediatric patients were included in our study. There were 56 children in the delayed extubation group with an incidence of 10.4%. In the multivariate analysis, the factors associated with delayed extubation were including neonates (adjusted odds ratio [aOR], 3.743; 95% confidence interval [CI], 1.076-13.028), American Society of Anesthesiologists physical status III-IV (aOR, 3.010; 95% CI, 1.057-8.573), preoperative oxygen supplement (aOR, 6.033; 95% CI, 1.713-21.243), intracranial surgery (aOR, 4.494; 95% CI, 1.458-13.847), estimated blood loss (EBL) ≥ 40% of total blood volume (TBV) (aOR, 5.465; 95% CI, 1.640-18.210), and finishing operation after official hours (aOR, 3.810; 95% CI, 1.633-8.889).

There were preoperative and intraoperative factors associated with delayed extubation such as preoperative oxygen therapy, intracranial surgery, or estimated blood loss ≥ 40% of total blood volume. These might be useful for anesthesiologists in making decisions about the planning of extubation after neurosurgery in children [1].

Patients having moderate to the severe primary or mixed acid-base disorder have a probability of re-intubation or delayed extubation after atlantoaxial dislocation [2].

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2)
Marutirao R, Singh S, Shamshery C, Sardhara J, Mishra P, Mehrotra A, Srivastava AK, Jasiwal AK, Srivastava S, Behari S. Impact of Postoperative ABG Analysis and ICU Weaning Protocol in Surgical Outcome of Atlanto-Axial Dislocation: It's not the Towering Sail, but the Unseen Wind that Moves the Ship. Neurol India. 2022 Jul-Aug;70(4):1540-1547. doi: 10.4103/0028-3886.355113. PMID: 36076656.