



ARTICLE OF THE MONTH

Anesthesia for Same Day Discharge After Craniotomy: Review of a Single Center Experience

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Welcome to the November 2018 SNACC Article of the Month! This month we explore the topic of same-day discharge after neurosurgery. Results are described from a single center's experience, including surgical procedure, patient factors, and reasons for discharge failure and readmission.

Paper selection and commentary are provided by Dr. Claudia Clavijo of the University of Denver. Dr. Clavijo is an assistant professor of anesthesiology and director of neuroanesthesiology in her department. She is a grant-funded researcher whose interests include intraoperative neuromonitoring and pharmacokinetics.

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~ Nina Schloemerkerper, MD; Oana Maties, MD; Adrian Pichurko, MD

Commentary

Claudia F. Clavijo, MD

The benefits of ambulatory surgery are well known. Given the availability of advanced technology, shorter-acting anesthetics, and better understanding of the factors that limited early discharge in the past, ambulatory surgery is a growing practice for many surgical specialties. However, same-day discharge after intracranial procedures is still a foreign concept in the majority of institutions. Traditionally, neurosurgical patients are admitted for constant evaluation to facilitate early detection and prompt intervention of complications such as edema, seizures and hemorrhage.

The authors of this review article delineate a well-established process in their institution to make same-day discharge an alternative in selected patients after specific neurosurgical interventions. They recount the evolution of same-day discharge in neurosurgical procedures in their institution during a period of approximately ten years. Their experience started with encouraging results obtained in a pilot study in which same day discharge was

successful in 89% of the 46 patients. The authors later obtained successful same day discharge in patients who underwent stereotactic biopsy of supratentorial lesions under general anesthesia as well as conscious sedation. This same group described the utilization of same day discharge protocols in selected patients who underwent clipping of unruptured aneurysms in the anterior circulation.

Collaborative and synchronized work between neurosurgeons, anesthesiologists and nurses was required to safely achieve discharge on the same day in neurosurgical patients. This review emphasizes the importance of patient selection, including surgical factors, anesthesia risk and social environment. The review also delineates reasons for failure of same-day discharge, and causes of readmission.

The authors describe their experience and detailed perioperative protocols used in their institution, and reviewed the literature of outpatient neurosurgery until 2016. A total of 13 studies involving over 1100 patients are summarized.

This article shows same day surgery as a viable option in selected neurosurgery patients with the appropriate perioperative and home environment. The well-thought protocols provide useful information that could be applied to improve outpatient safety and patient experience in other surgical situations such as intraabdominal procedures.

Though the experience reported in this review appears to offer exciting opportunity for patients and providers, caution must be exercised when considering ambulatory neurosurgery as an alternative. The protocols applied in this institution may not be suitable in other locations due to availability of resources and geographic, logistic or social factors.

Examining the reasons for readmission, one wonders if the risk of having a potential catastrophic event after early discharge could be avoided by admitting the patient overnight, since most of the complications occur in the first 24 hours after surgery and most of these selected patients would have achieved discharge criteria by the following day.

The protocols can readily be applied to the selected patient population for early transfer to the floor instead of automatic transfer to the ICU. These may allow patient to recover the first 24 hours in a more private environment with the company of family members. They will also be under constant observation and early detection of complications would be facilitated.