Study: Hospital Discharge Safe One Day Post-Brain Tumor Resection

Dawn Elliott Knapp, PA-C, for Medscape

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The study covered in this summary was published on ResearchSquare.com as a preprint and has not yet been peer reviewed.

Key Takeaways

- Posterior fossa tumor resections are traditionally associated with longer hospital stays, and predictors of early discharge in these patients are limited. The authors of this study sought to find differences in outcomes and readmission rates in patients who had been discharged postoperative day one (POD1).
- A retrospective review of patients who underwent resection of posterior fossa tumor by a single, high-volume surgical neuro-oncologist and were discharged on POD1 found no statistically significant increase in perioperative complication rates or 30-day readmission rates.

Why This Matters

- A standard protocol for discharge on POD1 does not currently exist for posterior fossa craniotomies.
- Patients may potentially be discharged sooner post-surgery without undue fear of readmissions and/or postoperative complications.

Study Design

- Investigators retrospectively analyzed all posterior fossa brain tumor resections performed at their institution from September 2011 to July 2020. POD1 discharges were compared to all other discharges.
- Modified Frailty Index (mFI) was calculated for all patients to quantify preoperative patient comorbidities, and pre- and postoperative Karnofsky Performance Status scores (KPS) and modified Rankin Scale scores (mRS) were calculated for each subject to differentiate perioperative neurologic function.
- Standard statistical analysis was performed to assess the association of the combined predictors with successful discharge on POD1.

Key Results

- Of 173 patients in the study, 25 (14.5%) were discharged on POD1.
- No statistically significant difference was found in 30-day readmission rates or postoperative complications between groups.
- Preoperative hydrocephalus was found to be an independent predictor of longer length of stay.
- Patients discharged on POD1 were more likely to be elective admissions (likelihood ratio [LR] 9.421, $P = .002$), to have no preoperative neurologic deficits (LR, 5.538, $P = .019$), and to have better preoperative functional status (higher KPS – LR, 19.717, $P = .011$; lower mRS – LR, 12.918, $P = .024$), and they were less likely to have preoperative hydrocephalus (LR, 40.636, $P < .001$).

Limitations

- The study was retrospective, data were from a single surgeon, and the sample size was small.

- Other variables that may have affected the results (such as time under anesthesia) were not analyzed.

Study Disclosures

- The authors declare that no funds, grants, or other support were received during the preparation of this manuscript and that they have no relevant financial or nonfinancial interests to disclose.

This is a summary of a preprint research study, "Evaluating predictors of successful postoperative day 1 discharge following posterior fossa tumor resection," by Hunter King, MD, Drexel University College of Medicine, Philadelphia, and colleagues from the University of Miami Miller School of Medicine. It is provided to you by Medscape. This study has not yet been peer-reviewed. The full text of the study can be found on ResearchSquare.com.

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