PERIOPERATIVE FACTORS AND OUTCOME IN ELDERLY PATIENTS UNDERGOING INTRACRANIAL SURGERY: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

- **TITLE**: Perioperative factors and outcome in elderly patients undergoing intracranial surgery: A prospective observational study.
- **BACKGROUND**: Elderly patient going for neurosurgery poses special challenge because of associated comorbidities, age-related pathophysiologic changes and specific problems related to neurosurgical patients like poor preoperative GCS, associated pulmonary infection, lower cranial nerve palsy, raised intracranial pressure, brain stem handling and major blood loss. As the data of perioperative complications of neurosurgical procedures in elderly is scarce, we assessed the incidence and characteristics of perioperative complications in patients undergoing intracranial procedures and the outcome of surgery in elderly patients.

OBJECTIVE:

- **Primary objective**: To assess the incidence and characteristics of perioperative complications and surgical outcome in elderly patients undergoing intracranial procedures.
- **Secondary objective**: To identify the risk factors associated with the occurrence of adverse outcome in elderly patients.

METHODS:

One hundred and one patients of ≥60 years undergoing neurosurgical procedures were studied prospectively. Information related to history, ASA status, comorbidities, type of surgery, preoperative GCS, nature of surgery, signs and symptoms of raised ICP, intraoperative blood loss, blood transfusion, brain bulge, hemodynamic fluctuations and postoperative complications like respiratory, cardiovascular and electrolyte abnormalities were noted. Glasgow outcome scale (GOS) were noted at the time of discharge. Univariate and multivariate analysis were performed to study the risk factors for poor outcome (Defined as GOS ≤ 3).

RESULTS:

Data was analyzed in 101 patients. Out of 101 patients, there were 40 female patients. The mean age of the patients was 66.05 years.

RESULTS:

- **Primary objective**: To assess the incidence and characteristics of perioperative complications and surgical outcome in elderly patients undergoing intracranial procedures.
- **Secondary objective**: To identify the risk factors associated with the occurrence of adverse outcome in elderly patients.

METHODS:

Prospective observational study in patients ≥ 60 years who underwent elective and/or emergency intracranial procedures. We included 101 patients. Intraoperative management of the patients was per our institutional protocol. Perioperative data was analysed for occurrence of perioperative complications, surgical outcome and associated risk factors in elderly patients.

RESULTS:

- Hypertension and diabetes were most common co morbidity in our patients. Hemodynamic fluctuations were the most common intraoperative complication, while electrolytes abnormality was the most common postoperative complication. Multivariate logistic regression analysis showed vascular surgeries, preoperative GCS < 8, blood loss >2 litres as independent risk factors for poor neurological outcome at hospital discharge.

CONCLUSIONS:

- Preoperative GCS ≤8, vascular surgery and blood loss >2 litres are the risk factors for poor outcome in elderly patient undergoing neurosurgery.

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