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# Prospective review of 30-day morbidity and mortality following surgery for brain tumours in children

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## Abstract

**Purpose:** This study aimed to record the 30-day and inpatient morbidity and mortality in paediatric patients undergoing neurosurgery for brain tumours in a tertiary neurosciences centre over a 10-year period. The intention was to establish the frequency of significant adverse events and review the current published rates of morbidity in this patient group.

**Methods:** All deaths and adverse events occurring within our department are prospectively recorded. Each adverse event was categorised, allocated a clinical impact severity score, and linked to a neurosurgical procedure wherever possible. Where a patient suffered several adverse events in the same admission, each event was recorded separately. If a patient had been discharged home, an adverse event was recorded if it occurred within 30 days of admission.

**Results:** A total of 285 procedures were performed in 209 patients (aged < 16 years). Eighty-five significant adverse events were identified. Four clinical indicators are the following: Significant adverse event rate: 78 (27.4%) operations were linked to at least one significant adverse event. Unscheduled return to theatre rate: 33 (11.6%) operations were associated with an adverse event that resulted in an unscheduled return to theatre. Surgical site infection rate: Eight (2.8%) operations were associated with an infection. Post-procedure hydrocephalus treatment rate: 37 (13.0%) operations were followed by a further surgical procedure to treat hydrocephalus.

**Conclusion:** Complications and adverse events occur frequently following neurosurgery for intracranial tumours in children. Prospective, continuous surveillance will promote improvement in the neurosurgical care delivered to this patient group.

**Keywords:** Adverse event; Brain tumour; Complication; Paediatric.

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