Postoperative complication

- Prevalence and antibiotic resistance of pathogens isolated from neurosurgical patients with postoperative central nervous system infections in a tertiary hospital in North China
- Evaluation of the clinical effectiveness of bundled care interventions on pressure ulcer incidence in neurosurgical patients
- Lactate levels during anesthesia in patients undergoing craniopharyngioma surgery
- Comparison of endoscopic versus microscopic transsphenoidal surgery in patients with pituitary adenomas: a propensity score matched study
- Spinal Arachnoid Cysts: A Single-Center Preliminary Surgical Experience with a Rare and Challenging Disease
- Postoperative Dysphagia Management in Hemifacial Spasm: A Case Report of Combined Catheter Balloon and Neuromuscular Stimulation
- Erector Spinae Plane Block in Pediatric Patients: A Case Report of Caution
- A Rare Presentation of Ruptured Pineal Region Teratoma with Postoperative Aseptic Meningitis

see Surgical risk

Postoperative deterioration

Postoperative in-hospital complication

Postoperative delirium.

Postdischarge complication

Postdischarge complication

Unplanned hospital readmission

Unplanned hospital readmission

Infections

Postoperative meningitis.

Post-neurosurgical procedure meningitis.

Surgical site infection.

Postoperative hemorrhage

Thromboembolic events

Surgical complications, patient harm events, and malpractice claims remain common in the field of neurosurgery. Many of these events are potentially avoidable. There are an increasing number of publications in the medical literature in which authors address cognitive errors in diagnosis and treatment and strategies for reducing such errors, but these are for the most part absent in the neurosurgical literature [1)].

infection, Cerebrospinal fluid leakage, harvest site pain, instrumentation failure….

Failures of implanted pedicle screws

Bone flap resorption

Pneumocephalus

Radiation induced complications

Shunt overdrainage

Hyponatremia

Adrenal insufficiency

Diabetes insipidus

Cerebrospinal fluid leak

Epistaxis

Cardiac arrhythmia

Pneumonia

Urinary tract infection

Hypoglycemia

Complications of Neurosurgery Vary between the Sexes The researchers analyzed data on 918 patients undergoing neurosurgery between 2006 and 2009. About 64 percent underwent brain surgery while 36 percent underwent spinal surgery. Overall, 20.3 percent of men had complications within 30 days after surgery, compared to 11.3 percent of women.

The complication rate remained twice as high in men after adjustment for other factors—including age, tobacco and alcohol use, and health problems like high blood pressure, coronary artery disease, and diabetes. Complications were also more common in older patients and in patients with coronary artery disease.

Men spent more time in the hospital than women: average 7.5 versus 5.7 days. Sex did not affect the average length of stay in the intensive care unit (ICU) after surgery.

There are important differences in health between men and women, with men having higher rates of

chronic diseases and earlier death. However, little is known about how sex might affect the risk of complications after surgery.

It's especially important to understand the factors affecting the risk of complications after neurosurgical procedures, which are increasing in scale and scope. Neurosurgery carries relatively high complication rates—in the new study, overall rates were 18.6 percent after brain surgery and 10.8 percent after spinal surgery.

Several Possible Reasons for Lower Risks in Women While acknowledging some important study limitations, the authors write, “[W]e think that our findings yield important insight with regard to the relationship between sex and postoperative outcomes.” They believe that multiple factors likely contribute to the sex difference in complication rates, including “psychosocial, hormonal, or underlying disease differences.” For example, the lower complication risk in women could reflect better social support, “neuroprotective” effects of estrogen, or lower rates of cardiovascular disease.

“Closer monitoring and more rapid response” for patients at highest risk may help health care providers to respond appropriately to developing complications, and “plausibly” to reduce the risk of postoperative complications and death, the researchers believe. They call for further research of sex and other risk factors, with the goal of providing patients with “more individualized appraisals” of the risks associated with surgery.

Early postoperative head computed tomography scanning is routinely performed following intracranial procedures for detection of postoperative complications, but its real value remains uncertain: so-called abnormal results are frequently found, but active, emergency intervention based on these findings may be rare.

Fontes et al retrospectively analyzed 892 intracranial procedures followed by an early postoperative CT scan performed over a 1-year period at Rush University Medical Center and classified these cases according to postoperative neurological status: baseline, predicted neurological change, unexpected neurological change, and sedated or comatose. The interpretation of CT results was reviewed and unexpected CT findings were classified based on immediate action taken: Type I, additional observation and CT; Type II, active nonsurgical intervention; and Type III, surgical intervention. Results were compared between neurological examination groups with the Fisher exact test.

Patients with unexpected neurological changes or in the sedated or comatose group had significantly more unexpected findings on the postoperative CT ($p < 0.001$; OR 19.2 and 2.3, respectively) and Type II/III interventions ($p < 0.001$) than patients at baseline. Patients at baseline or with expected neurological changes still had a rate of Type II/III changes in the 2.2%-2.4% range; however, no patient required an immediate return to the operating room.

Over a 1-year period in an academic neurosurgery service, no patient who was neurologically intact or who had a predicted neurological change required an immediate return to the operating room based on early postoperative CT findings. Obtaining early CT scans should not be a priority in these patients and may even be cancelled in favor of MRI studies, if the latter have already been planned and can be performed safely and in a timely manner. Early postoperative CT scanning does not assure an uneventful course, nor should it replace accurate and frequent neurological checks, because operative interventions were always decided in conjunction with the neurological examination [2].

1)

Fargen KM, Friedman WA. The Science of Medical Decision Making: Neurosurgery, Errors, and Personal

Cognitive Strategies for Improving Quality of Care. World Neurosurg. 2014 Mar 17. pii: S1878-8750(14)00278-2. doi: 10.1016/j.wneu.2014.03.030. [Epub ahead of print] PubMed PMID: 24650488.

2)

Fontes RB, Smith AP, Muñoz LF, Byrne RW, Traynelis VC. Relevance of early head CT scans following neurosurgical procedures: an analysis of 892 intracranial procedures at Rush University Medical Center. J Neurosurg. 2014 Aug;121(2):307-12. doi: 10.3171/2014.4.JNS132429. Epub 2014 May 30. PubMed PMID: 24878289.