Overlapping surgery

- Blurred by a "Puff of Smoke"-A Case-Based Review on the Challenging Recognition of Coexisting CNS Demyelinating Disease and Moyamoya Angiopathy
- Comparison of safety and efficacy between double LVIS and flow diverter for Blister-Like aneurysms: a multicenter retrospective study
- Childhood-onset Hydrocephalus
- Stroke-like migraine attack after radiation therapy (SMART) syndrome in a pediatric patient with a ventriculoperitoneal shunt: illustrative case
- Primary autoimmune hypothalamitis: management strategies and long-term outcomes in a tertiary care setting with a focused review of literature
- A self-supervised multimodal deep learning approach to differentiate post-radiotherapy progression from pseudoprogression in glioblastoma
- The underlying molecular mechanisms and biomarkers of Hip fracture combined with deep vein thrombosis based on self sequencing bioinformatics analysis
- The Role of Gamma Knife Surgery in the Treatment of Rare Sellar Neoplasms: A Report of Nine Cases

Overlapping surgery refers to a surgical practice in which a single neurosurgeon performs two or more surgeries at the same time, with the assistance of other surgical team members. This practice has been controversial, as some argue that it compromises patient safety and care.

In overlapping surgery, the surgeon is responsible for performing critical portions of each procedure, while non-surgeon team members, such as assistants and residents, perform less critical tasks. The surgeon may switch between procedures during the course of the surgery, leaving the non-surgeon team members to perform tasks in between.

Proponents of overlapping surgery argue that it can increase efficiency and reduce costs, as it allows surgeons to perform more procedures in a given time period. However, opponents argue that it can lead to poorer outcomes, as the surgeon's attention may be divided between multiple procedures and patients, potentially leading to mistakes or delays in care.

Regulations and guidelines vary by country and institution, but many have implemented rules to govern the practice of overlapping surgery, including requirements for informed consent and disclosure to patients about the practice.

Overlapping surgery (OS) is a common practice in neurosurgery that has recently come under scrutiny.

In a systematic review and meta-analysis of articles evaluating the effects of OS on the patient outcomes. PubMed and Scopus were searched for studies that analyzed outcome differences between overlapping and non-overlapping neurosurgical procedures. Study characteristics were extracted, and random-effects meta-analysis were performed to analyze the primary outcome (mortality) and secondary outcomes (complications, 30-day readmissions, 30-day operating room returns, home discharge, blood loss, and length of stay). Mantel-Haenszel tests were completed for binary outcomes, whereas the inverse variance tests were conducted for continuous outcomes. Heterogeneity was measured using the I2 and X2 tests. Egger's test was conducted to evaluate publication bias. Eight of 61 non-duplicate studies were included. Overall, 21,249 patients underwent non-OS (10,504 female)

and 15,863 patients underwent OS (8393 female). OS was associated with decreased mortality (p = 0.002), 30-day returns to OR (p < 0.001), and blood loss (p < 0.001) along with increased home discharges (p < 0.001). High heterogeneity was observed for home discharge (p = 0.002) and length of stay (p < 0.001). No publication bias was observed. OS was not associated with worse patient outcomes compared to non-OS. However, considering multiple sources of limitation in the methodology of the included studies (such as a limited number of studies, reports originating from mostly high-volume academic centers, the discrepancy in the definition of "critical portion(s)" of the surgery across studies, and selection bias), extra caution is advised in the interpretation of our results and further focused studies are warranted ¹⁾.

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Kumarapuram S, Elmogazy O, Mokhtari P, Goldstein I, Tayebi Meybodi A. Do overlapping neurosurgical procedures affect patient outcomes? A systematic review and meta-analysis. Neurosurg Rev. 2023 Apr 19;46(1):92. doi: 10.1007/s10143-023-01993-7. PMID: 37072635.

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