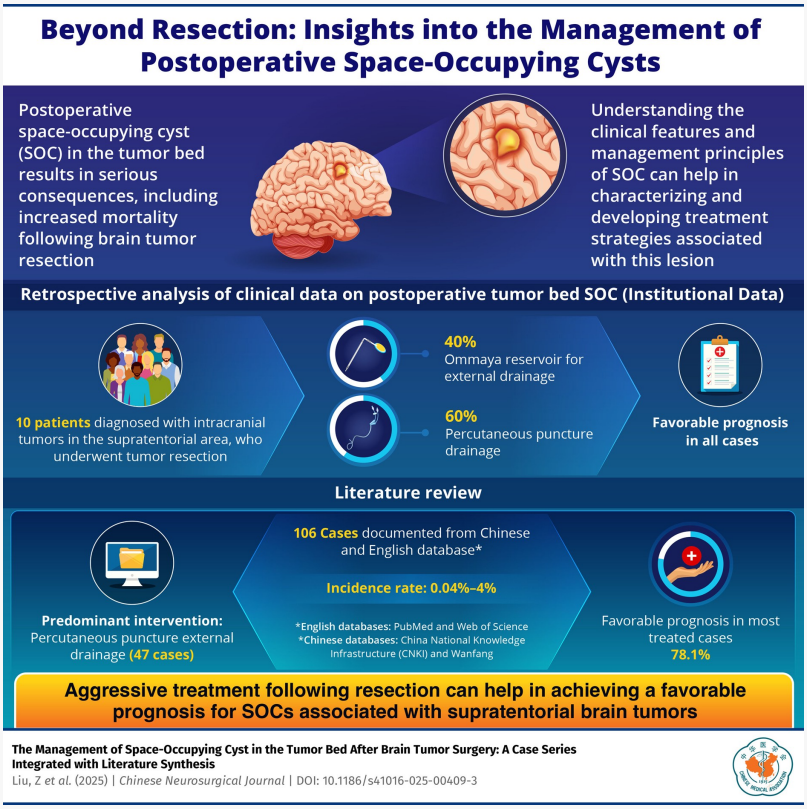
Chinese Neurosurgical Journal Reports Advances in Space-Occupying Cyst Care

Researchers studied clinical features and treatment strategies for managing postoperative space-occupying cysts in brain tumor surgical sites



The figure summarizes a retrospective and literature-based analysis of postoperative space-occupying cysts (SOCs) in the tumor bed after brain tumor resection. Proactive management with Ommaya reservoir placement or percutaneous drainage achieved favorabl

BEIJING, BEIJING, CHINA, November 7, 2025 /EINPresswire.com/ -- Space-occupying cyst (SOC), a fluid-filled sac that grows in a confined area of the body, is one of the major complications associated with brain tumor resection. Understanding the clinical features and management principles for such cysts can help patients to experience a favorable prognosis. In a recent Chinese Neurosurgical Journal Study, researchers analyzed and explored the potential characteristics and treatment strategies associated with this lesion.

A space-occupying cyst (SOC) is a fluid-filled sac that puts pressure on the surrounding tissues and can lead to severe complications, including death. It is an important post-operative complication associated with brain tumor surgery. Post-operative complications like SOC increase the risks of mortality and cognitive impairment, frequently resulting in extended hospital stay, readmission, and reoperation. They can also delay the initiation of adjuvant chemotherapy and radiotherapy in cancer patients. Timely diagnosis and management of these cysts can improve post-intervention recovery for such patients.

In a recent study, a group of researchers from China, under the guidance of Professor Zhixiong Lin, from Capital Medical University, Beijing, conducted a retrospective analysis of clinical data on

postoperative tumor bed SOC. “Current evidence associated with SOCs remains limited to case reports, lacking comprehensive analyses of the clinical profile. We wanted to assess that and also understand the associated management strategies,” mentioned Prof. Lin, talking about the motivation behind the study. The study was published on October 06, 2025, in Volume 11 of the Chinese Neurosurgical Journal.

The study was based on retrospective analysis of 1026 cases of surgically treated brain tumors at the Sanbo Brain Hospital, Capital Medical University, Beijing, China, between January 2016 and January 2024. A literature review was also performed based on data available in Chinese and English databases. SOC treatment procedures and prognosis were analyzed for the study.

Ten out of the 1026 cases were considered for the study. These patients had tumors in the supratentorial region of the brain, which consists of the cerebrum. SOC emerged in the surgical cavity within three to nine days post-intervention for these patients. External drainage using an Ommaya reservoir and direct percutaneous puncture drainage were the two intervention methods followed for these patients, as a SOC management procedure. Both procedures help in fluid drainage, relieving the pressure in the surrounding area of the cysts and reducing the complications. All patients regained consciousness post-treatment with no additional neurological dysfunction. In all ten cases, the cyst size showed a significant reduction post-treatment, and the patients were stabilized. At follow-up after 3 months of the procedure, none of the patients reported any increase in the size of the cyst.

The literature survey was based on a total of 82 cases identified from the PubMed and Web of Science databases and 24 cases obtained from the China National Knowledge Infrastructure (CNKI) database and the Wanfang Database. In all the cases, the tumor was in the supratentorial region. Percutaneous puncture for external drainage was performed in the majority of the cases, representing the highest percentage at 44.3%. Favorable prognosis was observed in the majority of the cases, with 82 patients reporting a positive outcome post-SOC management procedure.

Surgical interventions for SOC management include brain shunt placement, which is associated with complications. “Our study suggests that SOC management through external drainage by percutaneous puncture or placement of a fluid reservoir is a more favorable option compared to surgical procedures,” mentioned Prof. Lin. Timely diagnosis and intervention can help in SOC management and reduce risks of residual neurological deficits.

Post-operative monitoring for lesion detection and prompt therapeutic intervention can help patients with SOC and improve post-operative complication management in patients with brain tumor.

Reference
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About Capital Medical University, Beijing

Capital Medical University (CCMU), founded in 1960, is a municipal public university in Beijing, China. It ranks among the top academic medical institutions in China, and is considered as one of the key municipal universities in Beijing. It is also listed as one of the top 300 universities in the world university rankings. CCMU provides a wide range of educational programs for Doctorates, Masters, Bachelors and certificates. CCMU is a well-known academic institution, known for its strong competence in the scientific research. It hosts many national and municipal key disciplines, laboratories and some exchange stations for post-doctoral research.

Website: https://ccmu.cucas.cn/

About Professor Zhixiong Lin from Capital Medical University, Beijing

Dr. Zhixiong Lin is a professor at Sanbo Brain Hospital, Capital Medical University, China. His research focuses on neurological disorders, with a particular emphasis on clinical and translational neuroscience aimed at improving diagnosis and treatment outcomes for patients with brain diseases.

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