

Superior parietal lobule approach

The [superior parietal lobule](#) provides a surgical corridor between the motor and [visual pathways](#). This [approach](#) should be well known to neurosurgeons for evacuation of hematomas, vascular malformations, and neoplasms.

- o Anterior Border- [Postcentral sulcus](#).
- o Lateral Border- [Intraparietal sulcus](#). The SPL extends from the intraparietal sulcus to the midline.
- o Posterior Border- the parieto-occipital sulcus.
- o The superior parietal lobule can be estimated based on bony landmarks.

Anteriorly from the [inion](#) 7 cm and lateral 3cm (left)/4cm (right) are common landmarks for the SPL.

Positioning

Park-bench/Lateral, affected side up. Make sure to secure the patient to the bed with tape so they don't fall off when you rotate the bed to the contralateral side

Incision- Depends largely on the operation but often a sinusoidal, linear, or horse-shoe incision are employed

Approach- To approach tumors in the atrium of the lateral ventricle the Vycor tubes are awesome. You can split the intraparietal sulcus, avoiding the optic radiations, and enter the ventricle.

Kim et al., from the [Chonnam National University Hwasun Hospital, South Korea](#), report the surgical [outcome](#) of [trigone meningiomas](#) through three different [approaches](#) with attention to visual outcomes.

Between 1994 and 2017, twenty-three patients underwent resection of trigonal meningiomas.

They performed tumor [removal](#) using three different surgical approaches through the [superior parietal lobule](#), [middle temporal gyrus](#) (MTG), and modified-MTG. The patients were retrospectively identified and surgical results including visual outcome were analyzed.

Twenty three patients with a mean age of 45 years formed the study group. The most common symptom and sign were [headache](#) (N=14, 60.9%) and [visual disturbance](#) (N=6, 26.1%). All patients underwent surgical resection, 6 via trans-lateral approach through MTG, 8 via trans-lateral approach through modified MTG, and 9 via trans-parietal approach through superior parietal lobule (SPL). [Gross total resection](#) was achieved in all patients.

They found that visual preservation rate was 25% (1/4) in the MTG group, 62.5% (5/8) in the modified MTG group, and 100% (7/7) in the SPL group, respectively (p=0.044). Permanent [complication](#) rate was 50% (3/6) in the MTG group, 50% (n=4/8) in the modified MTG group, and 11.1% (n=1/9) in the SPL group.

The superior parietal lobule approach is a safe and applicable [procedure](#) with a great visual preservation and an acceptable risk of [morbidity](#) for trigonal meningiomas, when there is a chance of visual recovery or preservation ¹⁾.

A retrospective review was conducted of all children who presented to Columbia University/Morgan Stanley Children's Hospital of New York with a CPP in the atrium of the lateral ventricle and who underwent surgery using a superior parietal lobule approach without preoperative embolization. RESULTS Nine children were included, with a median age of 7 months. There were no perioperative complications or new neurological deficits. All patients had intraoperative blood loss of less than 100 ml, with a mean minimum hematocrit of 26.9% (range 19.6%-36.2%). No patients required a blood transfusion. The median follow-up was 39 months, during which time no patient demonstrated residual or recurrent tumor on MRI, nor did any have an increase in ventricular size or require CSF diversion. CONCLUSIONS The superior parietal lobule approach is safe and effective for very young children with CPPs in the atrium of the lateral ventricle. The results suggest that preoperative embolization is not essential to avoid transfusion or achieve overall good outcomes in these patients. This management strategy avoids radiation exposure and the additional risks associated with embolization ²⁾.

References

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Kim JH, Jang WY, Duy Khuong LN, Jung TY, Moon KS, Kim IY, Park WJ, Jung S. Selection of surgical approach for trigonal meningiomas in consideration of visual outcome. World Neurosurg. 2018 Jul 4. pii: S1878-8750(18)31427-X. doi: 10.1016/j.wneu.2018.06.211. [Epub ahead of print] PubMed PMID: 29981465.

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