

# Contralateral posterior interhemispheric transfalpine transprecuneus approach

Surgical exposure of the peritrigonal or peritriangular region has been challenging due to the depth of the region and overlying important functional cortices and white matter tracts. The authors demonstrate the operative feasibility of a contralateral posterior interhemispheric transfalpine transprecuneus approach (PITTA) to this region and present a series of patients treated via this operative route.

**Methods:** Fourteen consecutive patients underwent the PITTA and were included in this study. Pre- and postoperative clinical and radiological data points were retrospectively collected. Complications and extent of resection were reviewed.

**Results:** The mean age of patients at the time of surgery was 39 years (range 11-64 years). Six of the 14 patients were female. The mean duration of follow-up was 4.6 months (range 0.5-19.6 months). Pathology included 6 arteriovenous malformations, 4 gliomas, 2 meningiomas, 1 metastatic lesion, and 1 gray matter heterotopia. Based on the results shown on postoperative MRI, 1 lesion (7%) was intentionally subtotally resected, but  $\geq 95\%$  resection was achieved in all others (93%) and gross-total resection was accomplished in 7 (54%) of 13. One patient (7%) experienced a temporary approach-related complication. At last follow-up, 1 patient (7%) had died due to complications of his underlying malignancy unrelated to his cranial surgery, 2 (14%) demonstrated a Glasgow Outcome Scale (GOS) score of 4, and 11 (79%) manifested a GOS score of 5.

**Conclusions:** Based on this patient series, the contralateral PITTA potentially offers numerous advantages, including a wider, safer operative corridor, minimal need for ipsilateral brain manipulation, and better intraoperative navigation and working angles <sup>1)</sup>.

<sup>1)</sup>

Bohnstedt BN, Kulwin CG, Shah MV, Cohen-Gadol AA. Posterior interhemispheric transfalpine transprecuneus approach for microsurgical resection of peritriangular lesions: indications, technique, and outcomes. J Neurosurg. 2015 Oct;123(4):1045-54. doi: 10.3171/2015.3.JNS14847. Epub 2015 May 1. PMID: 25932608.

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