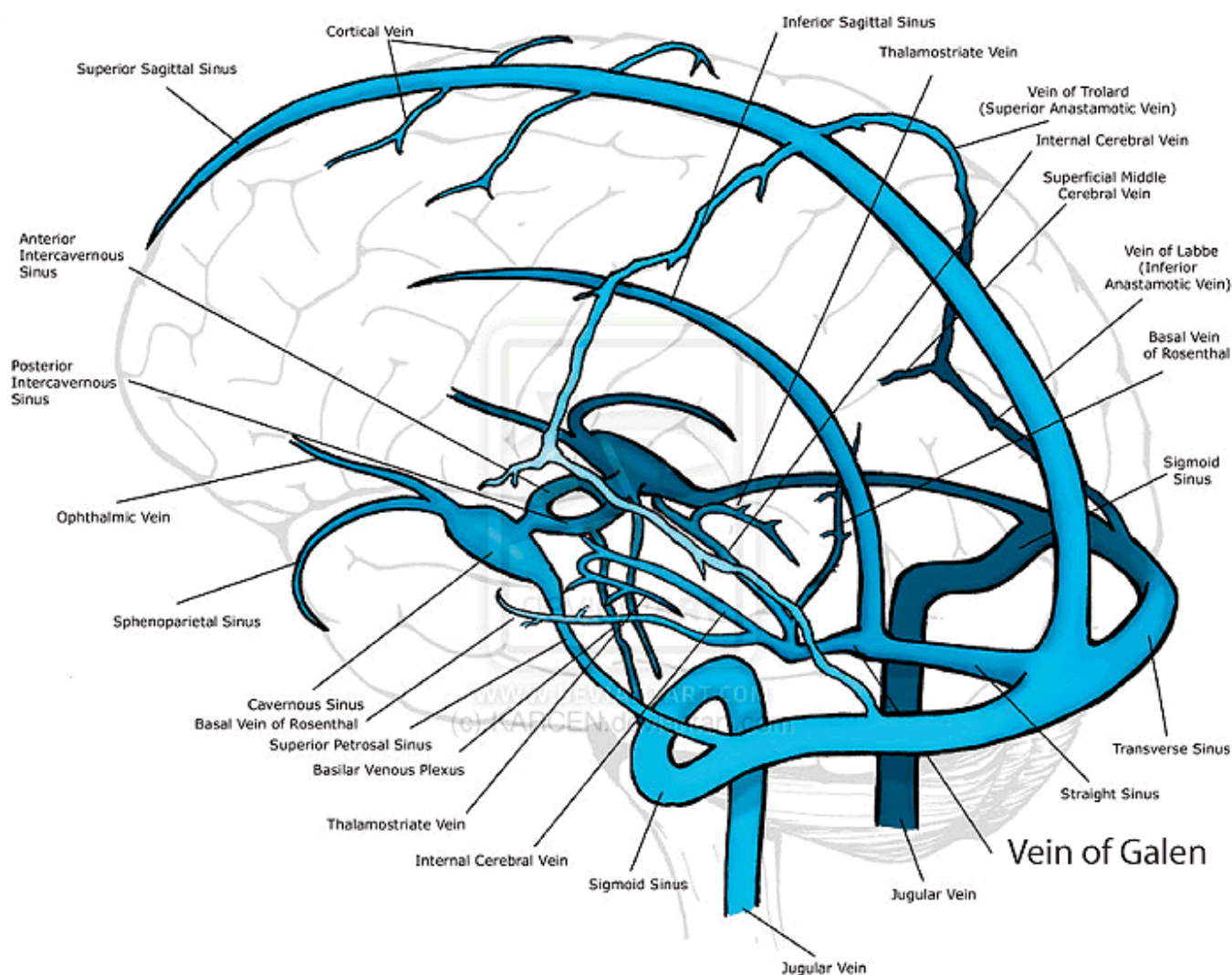


Superficial Middle Cerebral Vein



vein (superficial Sylvian vein) begins on the lateral surface of the hemisphere, and, running along the lateral cerebral sulcus, ends in the **cavernous sinus** or the **sphenoparietal sinus**.

Superficial Middle Cerebral Vein (SMCV) is an anastomotic vein frequently exposed during surgery. Changes in the pattern of cerebral venous outflow can occur in many pathological settings. We explored the hypothesis that the growth of an intracranial tumor could determine alterations in the venous outflow. We analyzed SMCV anatomical variants in patients undergoing surgery for intracranial tumors; we furthermore focused on association with histology.

Methods: We retrospectively collected data of 120 patients undergoing surgery, 60 presenting intracranial tumor and 60 presenting cerebral aneurysms (control group). Tumor series was divided into "Low Growth-Rate tumors" (WHO grade I and II) and "High Growth-Rate tumors" (WHO grade III and IV). Anatomical variants of SMCV were analyzed on intraoperative videos and then classified as Type 1 (normotrophic), 2 A (hypotrophic) and Type 2B (absent/atrophic). We furthermore defined as Type 2 any alteration of the SMCV (2 A+2B) encountered. Relationships among SMCV types and both populations were analyzed using the chi-squared test; values of $p < 0.05$ were considered statistically significant.

Results: We found a positive correlation between the presence of a primary brain tumor and Type 2B SMCV (PC.004, $p < 0.05$) and Type 2 SMCV (PC.000, $p < 0.05$). Specifically, we found a strong correlation between the absence of SMCV (Type 2B) and both tumors subgroups. Thus, the growth of a primary brain tumor seems to affect the cerebral local outflow.

Conclusions: Primary brain tumors seem to alter local venous network of SMCV. Clinical and oncological implications remain subject of further investigation ¹⁾.

¹⁾

Tola S, Parenti A, Esposito A, Della Puppa A. Temporal lobe tumors modify local venous drainage. Clin Neurol Neurosurg. 2023 Aug 25;233:107953. doi: 10.1016/j.clineuro.2023.107953. Epub ahead of print. PMID: 37647747.

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