Decompressive craniectomy for cerebral venous sinus thrombosis

- Treatment of cerebral venous thrombosis: a review
- Update on management of cerebral venous thrombosis
- Cranioplasty after Decompressive Craniectomy (DC) in a Patient with Intracerebral Hemorrhage after SARS-CoV-2 Vaccination-Related Vaccine-Induced Thrombotic Thrombocytopenia (VITT)-Proposal of a Management Protocol for This Rare Pathological Condition
- Pathophysiology, diagnosis and management of cerebral venous thrombosis: A comprehensive review
- Septic cavernous sinus thrombosis presenting as acute cerebral infarction and aneurysmal subarachnoid hemorrhage: Case report
- Prognosis of patients with severe cerebral venous thrombosis treated with decompressive craniectomy
- Role of Decompressive Craniectomy in the Treatment of Malignant Cerebral Venous Sinus Thrombosis: A Single Center Consecutive Case Series Study in China
- Identifying the risk factors for intracranial herniation in patients with cerebral venous thrombosis

---

Decompressive craniectomy is a surgical procedure commonly used in the treatment of various neurological emergencies, including cerebral venous sinus thrombosis (CVST). CVST is a rare condition characterized by the formation of a blood clot within the dural venous sinuses, which are responsible for draining blood from the brain. When these sinuses become blocked, it can lead to increased pressure within the brain, potentially causing severe neurological symptoms or even death if left untreated.

Decompressive craniectomy involves the removal of a portion of the skull to relieve pressure on the brain. This procedure allows the brain to swell without being compressed by the skull, reducing the risk of brain damage and improving outcomes for patients with increased intracranial pressure.

In the context of CVST, decompressive craniectomy may be considered in cases where medical management alone is insufficient to control intracranial pressure or when there is evidence of significant brain swelling that poses a risk to the patient's life. The decision to perform decompressive craniectomy in CVST is typically made on a case-by-case basis and depends on factors such as the severity of the patient's condition, the extent of brain swelling, and the presence of other complicating factors.

It's important to note that decompressive craniectomy is a major surgical procedure associated with potential risks and complications, including infection, hemorrhage, and neurological deficits. Therefore, it is typically reserved for cases where the benefits outweigh the risks, and careful consideration is given to each patient's individual circumstances.

Overall, while decompressive craniectomy may be a valuable treatment option in select cases of CVST with refractory intracranial hypertension, it is not without its challenges, and decisions regarding its use should be made in consultation with a multidisciplinary team of neurologists, neurosurgeons, and other specialists, taking into account the specific needs and circumstances of the patient.

Two-thirds of patients with severe CVT were alive and more than one-third were independent 1 year after decompressive surgery. Among survivors, surgery was judged as worthwhile by 4 out of 5 patients and caregivers. These results support the recommendation to perform decompressive neurosurgery in patients with CVT with impending brain herniation [1].

Emergent decompressive craniectomy may provide a chance for survival and enable patients with malignant CVST to achieve an acceptable quality of life (QOL) [2]

1)
Aaron S, Ferreira JM, Coutinho JM, Canhão P, Conforto AB, Arauz A, Carvalho M, Masjuan J, Sharma VK, Putaala J, Uyttenboogaart M, Werring DJ, Bazan R, Mohindra S, Weber J, Coert BA, Kirubakaran P, Sanchez van Kammen M, Singh P, Aguiar de Sousa D, Ferro JM; DECOMPRESS2 Study Group. Outcomes of Decompressive Surgery for Patients With Severe Cerebral Venous Thrombosis: DECOMPRESS2 Observational Study. Stroke. 2024 Apr 4. doi: 10.1161/STROKEAHA.123.045051. Epub ahead of print. PMID: 38572636.
2)
Qi M, Qu X, Wang N, Jiang LD, Cheng WT, Chen WJ, Xu YQ. Role of Decompressive Craniectomy in the Treatment of Malignant Cerebral Venous Sinus Thrombosis: A Single Center Consecutive Case Series Study in China. World Neurosurg. 2024 Jan;181:e867-e874. doi: 10.1016/j.wneu.2023.11.003. Epub 2023 Nov 4. PMID: 37931876.