Cranial Vault

The cranial vault is the space in the skull within the neurocranium, occupied by the brain. In humans, the size and shape of the brain, may be affected by the size of the vault as shown in craniometry, but studies relating it to intelligence have found no conclusive evidence. The vault is alternatively called “skullcap” or even calvaria, though these properly refer to the upper portion of the skull only.

see anterior cranial vault.

Cranial vault reconstruction.

Skull tumors occur at every age of childhood. Although they are mostly benign lesions, their symptomatology is variable and requires extended diagnostics. The choice of therapeutic strategy strongly depends on histopathological diagnosis, and therefore surgical excision is the elective treatment in such cases. Despite several published papers, the literature still lacks reliable clinical characteristics regarding this heterogeneous group of lesions in pediatric patients.

Skadorwa et al present a series of 100 children (55 male, 45 female) with scalp and cranial vault masses (average age: 3.6 years; range: 1 month to 17 years). Eighty-three (83%) patients underwent surgical excision. Demographic data, clinical presentation, diagnostic studies, choice of therapy, and the results of treatment were evaluated.

All removed tumors were benign pathologies: pilar cysts (30%), epidermoid/dermoid cysts (21%), vascular malformations (11%), inflammatory tumors (5%), and dysraphic remnants (2%). However, underlying bone destruction was observed in 61% of cases. Cranial extension occurred in 34%. Recurrence was noted in 1 case.

Cranial vault tumors are characterized by constant growth and may penetrate the cranial cavity. Delayed surgery increases the risk of intracranial complications. Surgical problems include inappropriate planning, higher risk of intraoperative bleeding, and the need for subsequent cranioplasty [1].

1)
Skadorwa T, Ciszek B. Clinical Characteristics of Benign Pediatric Cranial Vault Tumors: Surgical Considerations Based on 100 Cases. Pediatr Neurosurg. 2017;52(1):13-19. PubMed PMID: 27668432.