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Craniectomy close to the midline can predispose patients to the development of hydrocephalus. Interhemispheric subdural hygroma could be generated with the same mechanism, and these three events could be correlated on a timeline

De Bonis et al.¹⁾ hypothesized that a medial craniotomy may have a potentially pathogenetic role in the development of posttraumatic hydrocephalus (venous blood flow theory). Nonetheless, this hypothesis does not explain why the resolution of hydrocephalus after bone flap replacement was observed only in some patients. Probably, there are several factors related to the pathogenesis of IHH and posttraumatic hydrocephalus, and they work together in the development of ventricular enlargement. Further studies are necessary to understand these questions, the real relationship between decompressive craniectomy and posttraumatic hydrocephalus, and how these factors modify prognosis²⁾.

Aarabi et al.³⁾ reported that, in 54 patients with severe head injuries who underwent decompressive craniectomy (DC) with evacuation of mass lesions, 15 patients developed subdural hygromas, that 10 (67%) of these patients exhibited IHHs, and that hydrocephalus was observed in 4 of the 15 patients with subdural hygromas. These data are in accord with the results of Kaen et al.⁴⁾.

In contrast, Aarabi et al.⁵⁾ previously reported that, of 50 patients with severe head injuries who underwent DC without removal of clots or contusion for diffuse brain swelling, 25 patients developed subdural hygromas, which were rarely interhemispheric.

Thus, the studies by Kaen et al. and Aarabi et al. suggest that the high incidence of IHH might be the result of DC with evacuation of mass lesions.

Therefore, Takeuchi et al. hypothesize that the volume of the evacuated mass may be correlated with the occurrence of IHHs. As such, DC with evacuation of large mass lesions may generate a greater suction effect and the interhemispheric space is more likely to expand. If this hypothesis is correct, careful attention should be paid to the occurrence of IHHs, especially when DC with evacuation of large mass lesions is performed. Further investigation into the correlation of the volume of evacuated mass lesions with occurrence of IHHs may provide additional insight into the mechanism of IHHs after DC ⁶⁾.

1)

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