Decompressive craniectomy for infants

The unilateral decompressive craniectomy has an advantage over non-surgical treatment of children with severe brain injury and should be considered in their management [1].

Decompressive craniectomy (DC) is an established neurosurgical emergency technique. Patient selection, optimal timing, and technical aspects related to DC and subsequent cranioplasty remain subjects of debate. For children, the overall degree of evidence is low, compared with randomized controlled trials (RCTs) in adults.

Beez et al. presented a detailed retrospective analysis of pediatric DC, covering the primary procedure and cranioplasty. Results were analyzed and discussed in the light of modern scientific evidence, and conclusions drawn to stimulate future research.

The main indication for DC in children is traumatic brain injury (TBI). Primary and secondary DC is performed with similar frequency. The outcome appears to be better than that in adults, although long-term complications (especially bone flap resorption after autologous cranioplasty) are more common in children. Overt clinical signs of cerebral herniation prior to DC are predictors of poor outcome.

DC is an important option in the armamentarium to treat life-threatening intracranial hypertension, but further research is warranted, preferentially in a multicenter prospective registry [2].

Decompressive craniectomy in young age has shown favorable outcomes for management of intracranial hypertension, but current literature is scarce and consists of only case reports or small series.

A retrospective chart review of infants (less than 1 year of age) undergoing unilateral or bilateral decompressive craniotomy at a tertiary care hospital in Pakistan. Kochi score was used to score outcomes of five infants who underwent the procedure.

Five infants were included in this series. Operative time for decompressive craniectomy (DC) ranged from 1 h and 40 min to 4 h. Three infants survived to undergo cranioplasty. Two infants recovered with good Kochi scores of 5a and one infant developed hemiparesis (Kochi score 3b).

Decompressive craniectomy carries good outcomes in selected patients. Risk of bleeding and hemodynamic instability makes this procedure challenging. We found coagulopathy in four of the five patients which poses another challenge to the surgical management of these patients and has not been stressed enough in the previous literature [3].

References

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