抄録見本

Troubleshooting distraction osteogenesis for craniosynostosis

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Purpose: We reported that distraction osteogenesis is less invasive due to less bleeding and a shorter operation time compared to conventional cranioplasty (Pediatr Neurosurg 2006). This method can give greater skull advancement and less wound trouble compared to conventional cranioplasty, and would be especially suitable for syndromic craniosynostosis. In this study, we analyzed our patients treated by distraction osteogenesis, and tried to identify the technical troubles and difficulties, and how to avoid or minimize these problems.

Patients and results: We operated on 18 patients by distraction osteogeneis between the years 1999 and 2011. During the treatment course, we had several technical troubles, as follows; 1) dural laceration at the craniotomy, 2) skull fracture at spheono-frontal suture or coronal sutures, 3) device dislocation, 4) wound troubles.

Discussion: 1) We have to be careful to avoid dural damage at the placement of the burr holes. 2) We have to confirm the complete craniotomy by identifying the pulsation of the bone flap. The craniotomy line should be placed forward of the coronal sutures. 3) For patients younger than 2 years old, we recommend using a clamp type distraction device. 4) We have to cut the shaft short enough to prevent the tip from exerting pressure to the scalp from beneath.

Conclusions: Distraction osteogenesis has several advantages as a treatment modality for craniosynostosis. However, during the craniotomy and distraction, we need to pay special attention to the above mentioned points to avoid problems. These are problems that would not happen with conventional cranioplasty.