

OP08

Endoscopically assisted craniostomose surgery: the Craniofacial Team Nijmegen (Radboud University Medical Centre) experience

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Introduction: In this study the results of endoscopically assisted craniostomose (EAC) surgery followed by postoperative helmet therapy have been evaluated. The use of EAC surgery was introduced in 2005 in the Craniofacial Team Nijmegen of the Radboud University medical centre. We present the results of our first 105 cases.

Methods: Retrospective analysis of a prospective registration database including all EAC procedures was performed. Data registration ran from August 2005 until November 2013 and included our first 105 EAC surgery cases. Age at time of surgery, duration of surgery, length of hospital stay, blood loss, transfusion rate and duration of helmet therapy were evaluated and, where appropriate, means (\pm standard deviation) are presented. Cephalic index (CI) was calculated pre- and postoperatively in 31 scaphocephaly cases.

Results: From August 2005 to November 2013, 105 EAC procedures were performed at the Craniofacial Team Nijmegen. 53% of procedures were performed for scaphocephaly, 28% for trigonocephaly. Five syndromic patients (3 Apert, 2 Muenke syndrome) and 3 patients with complex multisutural synostosis were also treated with EAC procedure. The mean age at the time of surgery was 120 (\pm 34,1) days.

The mean surgical time was 60 (\pm 20,6) minutes and the mean blood loss was 36 (\pm 29,3) ml. No transfusion was needed during surgery, after surgery transfusion was needed in 20% (n=21) of cases. Helmet therapy started typically two weeks after surgery and the mean duration of this post-operative helmet therapy was 10 (\pm 2,14) months. The mean pre- and post-operative CI were respectively 0,65(\pm 0,06) and 0,70(\pm 0,06). The mean length of hospital stay is 3,8 (\pm 0,68) days. No mortality or severe morbidity was noted.

Conclusion: EAC surgery shows satisfying cosmetic results with less morbidity, shorter surgical time, shorter length of stay, less blood loss and less need for blood transfusion compared to open craniostomose repair techniques. Therefore it is the treatment of choice at the Craniofacial Team Nijmegen for craniostomose patients younger than 6 months. Early referral to a specialist neurosurgical hospital is paramount for optimal results.