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The price we pay: results of an open surgical technique treatment of sagittal synostosis

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The present review concerns 100 consecutive operations for sagittal synostosis performed at FINNCB. There was a prevalence of males; the age at surgery ranged between 3-36m. (mean 10). All the children were submitted to preoperative volumetric CT scan for diagnosis. Multiple craniectomies were performed using an high speed drill, by a zig-zag bicoronal approach; the bone flaps were programmed and reshaped on the basis of preoperative volumetric CT scan. No fixation was applied, except reasorable plates in 4 cases; fibrillar surgical was positioned in the craniectomies to improve hemostasis. All the children, but two, were submitted to blood transfusion. Two patients were re-operated for re-stenosis.

The intraoperatory Estimated Blood Volume Losses ranged between 14.54 ml/Kg to 172.46 ml/kg (median 60.25 ml/kg).

The surgical complications were 1 progressive bone defect due to dural tearing, 1 recurrent CSF collection, requiring reoperation and 1 alopecia on the scar; there was no mortality. Good functional and cosmetic results were obtained, with a better reshaping in younger children; none of the patients tested presented genetic mutations. Half of the patients was evaluable at school-age: they were submitted to MRI and neuro-psycological testing and results will be discussed.

Conclusions: The present series suggests that the technique applied has good results, with low morbidity rate and good correction of both cephalic and vertical index, if the patient are operated soon enough to prevent stable deformation; also the delayed occurrence of CM1 was prevented, as documented in the 50 cases controlled by delayed MRI; beside this good results, the entity of blood losses are the serious problem of this kind of technique.