

ALTERNATIVE APPROACH FOR FRONTOORBITAL ADVANCEMENT IN A PEDIATRIC PATIENT WITH CRANIOSYNOSTOSIS: CASE REPORT.

Solano Nicolás ^{1,2}, Gutiérrez Paulina ¹, Peraza Arianny ², Sarcos Betsabe ², Salomón Ramos ²

1. Oral and Maxillofacial Surgery Unit, Hospital Coromoto. Venezuela.

2. Oral Surgery Postgraduate Residency Training Program, La Universidad del Zulia, Venezuela.

INTRODUCTION

The coronal approach is the gold standard for achieving good access to the upper facial third and the anterior cranial segment. In pediatric craniofacial surgeries, we must take into account two premises to reduce intraoperative risks, such as: controlling bleeding and being efficient and effective in the shortest surgical time, with the aim of maintaining stable hemodynamic parameters in these patients and thus, ensuring better postoperative evolutions. [1,2]

OBJECTIVE

Propose minimally invasive pericranial incisions as an alternative in the conventional coronal approach for fronto-orbital advancement to reduce blood loss and operative times.

CASE REPORT

PATIENT'S DATA

Gender	Male
Age (Months)	25
Diagnosis	Crouzon Syndrome with associated seizure episodes.
Suture affected	Coronal and Lambdoid
Treatment	Fronto-orbital advancement

SURGICAL TECHNIQUE

In association with the neurosurgery unit, an incision was made with a conventional bicoronal approach, exposing the anterior cranial segment and the upper third of the face. (Fig 1) Anterior craniotomy was started in a standardized manner, except to periosteal incisions were made only in the sites to be osteotomized and the release of the supraorbital band was initiated (Fig 2,3). Subsequently, the fronto-orbital region was modified, it was advanced and fixed using 3-0 silk suture creating a new open coronal suture.(Fig 4)



1. Pericranial incision 2. Frontal craniotomy 3. Fronto-orbital osteotomy 4. Fronto-orbital band

PATIENT FOLLOW-UP

3 years after surgery, the patient has evolved satisfactorily with the cessation of seizures. Currently, the patient is under the management of Pediatric Dentistry and Orthopedics for the subsequent preparation of the next surgical phase.



CONCLUSION

The use of minimally invasive incisions in the pericranium for the coronal approach represents an excellent alternative that allows to significantly reduce blood loss and surgical times, details of utmost importance in hemodynamic homeostasis in pediatric patients with syndromic craniosynostosis.

THE AUTHORS DECLARE THAT THEY HAVE NO CONFLICTS OF INTEREST

[1] Ruiz RL, Pattisapu JV, Costello BJ, Golden B. The coronal scalp flap: surgical technique. Atlas Oral Maxillofacial Surg Clin N Am. 2010;18:69–75. [2] Kumar VS et al. Minimizing complications associated with coronal approach by application of various modifications in surgical technique for treating facial trauma: a prospective study. Natl J Maxillofac Surg 2016;7:21–8. [3] Seruya M et al. Factors related to blood loss during fronto-orbital advancement. J Craniofac Surg. 2012;23:358–62 [4] Park C et al. Perioperative blood loss and transfusion in craniosynostosis surgery. J Craniofac Surg 2018;29:112–5. [5] Ito E, Watanabe T, Sato T, et al. Skull base reconstruction using various types of galeal flaps. Acta Neurochir 2012;154:179–85.