

## FP06

**Long-term follow-up of syndromic craniosynostosis after Le Fort III halo distraction: cephalometric, CT and aesthetic evaluation**

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**Introduction:** Midface distraction osteogenesis (DO) in craniofacial synostosis (CFS) patients has been described by several authors. However, very few cephalometric and computed tomography (CT) long-term follow-up studies are available.

**Method:** A total of 46 consecutive patients affected by CFS subjected to Le Fort III and rigid external distraction (RED) were examined. All patients had pre-DO cephalometric records, immediately post-DO and 6-12 months post-DO. Twenty-seven patients had mid-term records (3 years post-DO) and 20 patients had long-term records (5-10 years post-DO). Twenty patients had CT data within 1-year of DO, while 10 patients had long-term CT data (range 5-9 years).

**Results:** Excellent post-surgical stability was recorded. Short- and long-term CT data demonstrated excellent ossification at the osteotomy sites post-DO. In the growing patients, surface resorption in the zygomatic-temporal and in the subspinal area ( $p < 0.05$ ) was observed in the long-term follow-up, as well as a mild increment of the corrected exorbitism ( $p < 0.05$ ), as only appositional and no sutural growth occurs post Le Fort III, whereby orbital volume does not increase after surgery.

**Conclusion:** Significant advancement of the midface can be achieved and maintained through Le Fort III and RED. In the long term, in growing patients, in general a class III malocclusion does not re-occur, but physiological remodelling processes at the maxillary-zygomatic level, not coupled with sutural growth, tend to mildly re-express the original midfacial phenotype and the exorbitism.