

Title: Alar Pinning with Rigid External Distraction for Treatment of Midfacial Hypoplasia

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Distraction osteogenesis with a rigid external distractor is a widely accepted treatment of midfacial hypoplasia. In this study, the authors introduce the utilization of alar pinning with the external halo distractor for maxillary advancement, in place of an oral splint. Fixation sites within the alar crease allow for maxillary advancement while minimizing the visibility of pin site scars. They also eliminate the need for a custom-made oral splint, which prevents the patient from using the upper dentition and also frequently requires the consultation of a dentist or orthodontist for fabrication.

Seven patients successfully underwent distraction osteogenesis utilizing this technique. Midfacial hypoplasia was secondary to either Crouzon syndrome ($n=4$), Apert's syndrome ($n=1$), Pfeiffer syndrome ($n=1$), or bacterial meningitis ($n=1$). Three patients were managed with monobloc osteotomies, two with Le Fort III osteotomies, one with Le Fort III osteotomy and frontoorbital advancement, and one with Le Fort I osteotomy alone.

Two out of the seven patients had minor complications specifically related to the alar pins. One patient had concern for a mild skin infection at a pin site that resolved with oral antibiotics and the other patient had loosening of an alar pin which did not require operative management. Retrospective chart review indicated that all patients were pleased with their results from the distraction and no patients opted for further advancements.

Conclusion: Utilization of alar pin sites for external distraction is a feasible and reasonable option for treatment of midfacial hypoplasia involving a Le Fort osteotomy or monobloc procedure. This technique eliminates the need for an intraoral splint, which can be cumbersome in both application and postoperative care.