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Technical Issues in Craniomaxillofacial Distraction Osteogenesis: A Case Series

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Abstract

Distraction osteogenesis allows superior skeletal advancement compared to conventional surgical osteotomy. It can be considered as a reliable and predictable surgical procedure and is widely used to correct the craniomaxillofacial bone discrepancy. Nevertheless, the outcome is technically dependent and requires comprehensive peri-operative assessment, preparation, and precision in application. The objective of this study is to highlight some important technical issues in distraction osteogenesis when the technique is indicated in various craniomaxillofacial regions and at the same time to discuss the options of preventing and overcoming these technical complications based on our experience and relevant literature. Important technical issues on the application of distraction osteogenesis in 5 different craniomaxillofacial regions were selectively highlighted based on the completed cases in one centre. Potential complications and its prevention methods were documented and discussed. The 5 highlighted regions of craniomaxillofacial distraction osteogenesis were alveolar, mandibular, cleft maxilla, craniofacial and facial cleft. Technical issues and complications were mostly device related and associated with anatomical limitations and surgical technique. Nevertheless, these complications are preventable and can be appropriately managed. From the literature and our experience, the technical aspects vary according to its application in different craniomaxillofacial regions. Preventing the potential complications contribute to the success of its application. This article also discussed the concept of Ihsan application in the medical field, to achieve the best of treatment in terms of delivery and technical preparation for the patients.


Keywords

Author Keywords: [distraction osteogenesis](#); [craniomaxillofacial surgery](#); [technical issues](#); [Complications](#)

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