

Ectodermal dysplasia: two-stage orthognathic surgery, digital planning and restorative rehabilitation

Précis: This case report highlights how a two-stage surgical approach and digital multidisciplinary team planning allowed for successful restorative rehabilitation of a patient with ectodermal dysplasia.

Abstract

Introduction: Ectodermal dysplasia (ED) is a hereditary disorder caused by dysplasia of one or more of the ectodermal tissues, with hypodontia or anodontia being common. Prosthetic rehabilitation is a routine process for people with ED from childhood to adulthood.

Objectives: This paper presents the multidisciplinary team (MDT) management of a 36-year-old female patient with anhidrotic ED, a hypoplastic maxilla and hypodontia, and with skeletal and dental concerns.

Methods: The MDT included consultants in oral and maxillofacial surgery, restorative dentistry and orthodontics. Following cone beam computed tomography (CBCT) imaging and digital MDT planning, treatment involved a two-step surgical approach with a bimaxillary osteotomy and bone grafting, followed by delayed insertion of transzygomatic and conventional dental implants. These were restored with a full arch maxillary bridge and a lower implant-retained complete denture. The piezoelectric system was used as part of the surgical procedure to ensure that the optimal patient outcome was achieved.

Results: Follow-up radiographic and clinical evaluation revealed appropriate healing, an enhanced facial profile, and a stable and functional occlusion. The patient is very satisfied, and her skeletal and dental concerns have been successfully addressed.

Conclusions: The integration of two-stage orthognathic surgery and digital MDT planning allowed for the restorative rehabilitation of a person with ED, a hypoplastic maxilla and hypodontia. This case demonstrates the favourable use of piezoelectric saws in the osteotomy of an underdeveloped maxilla, as well as outlining the need for MDT planning to ensure the optimal outcome for patients with ED.

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