



Multidisciplinary Management of Ectodermal Dysplasia in the Adolescent Patient: A Case Report

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INTRODUCTION

Ectodermal dysplasia (ED) is a genetic condition of abnormalities in ectodermally derived structures including nails, hair, sweat glands, salivary glands, and teeth. Affected individuals often present with congenitally absent teeth and/or defective tooth structure, as well as skeletal/alveolar deficiencies. Continued craniofacial growth during childhood requires proper sequencing and utilization of various dental treatment options. Treatment is therefore often complex, and a multidisciplinary approach is recommended.

This case report presents the sequential multidisciplinary care of a 13-year-old Hispanic male with ectodermal dysplasia and the treatment considerations in growing patients.

CASE DESCRIPTION

The patient initially presented at age 9 with retained primary teeth, oligodontia, reduced occlusal vertical dimension (OVD) and insufficient restorative space (**Photos 1-3**). An interdisciplinary approach was undertaken with pediatric, orthodontic, and prosthodontic colleagues to determine the coordinated treatment sequence. The treatment objectives at the age of 13 were to assess and establish an appropriate OVD and restorative space to improve esthetics and provide posterior occlusion.

After an initial assessment of the desired OVD based on esthetics, phonetics and facial profile, the patient underwent pre-prosthetic orthodontic treatment to align the existing teeth in a more prosthetically favorable position and maintain space for future prosthetic treatment (**Photos 4-6**). At age 13, with the conclusion of orthodontic treatment, the remaining teeth were restored with posterior full coverage milled composite restorations and anterior partial coverage milled composite restorations. Maxillary and mandibular acrylic interim partial dentures were then fabricated (**Photos 7-9**). Definitive treatment, including the possibility of dental implants, will be considered once the patient reaches skeletal maturity.

PRESENTATION AND TREATMENT SEQUENCE



Indirect Milled Resin Restorations and Acrylic Partial Dentures

DISCUSSION

In patients with ED, the edentulous spaces manifest with deficient alveolar ridge development and insufficient bone volume, resulting in limited prosthodontic treatment options. Furthermore, fixed partial dentures and implant therapy in young and actively growing patients is controversial because of the possibility of interference with craniofacial growth, especially if the design crosses the midline.¹ Because of the variation in growth among individuals, a prosthesis that provides retrievability is recommended for children. This facilitates and allows for adjustments related to growth and development.^{2,3} Although implant therapy in the anterior mandible may be a viable treatment option for some children with ED⁴, in this case, a functional and esthetic result was achieved in the interim phase with conventional prostheses without the use of implants. Implant therapy may be considered at around age 18, when such treatment is considered more predictable.

INTERDISCIPLINARY TREATMENT TIMELINE

AGE
(YEARS)

9

Pediatrics

Exam, diagnosis, early intervention

Orthodontics

Align teeth, guide eruption of teeth, space maintenance

Prosthodontics

Restore function and esthetics, plan for future intervention

15

CONCLUSION

The patient was pleased with the esthetic and functional result. At follow up, the patient required minimal denture adjustment but otherwise showed excellent adaptation.

This case report highlights the comprehensive interdisciplinary dental care of a patient with ED and the establishment of appropriate OVD and occlusion in the interim phase prior to skeletal maturity.

REFERENCES

