



Acetal Frameworks for Growing Patients with Ectodermal Dysplasia: Case Report



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PURPOSE:

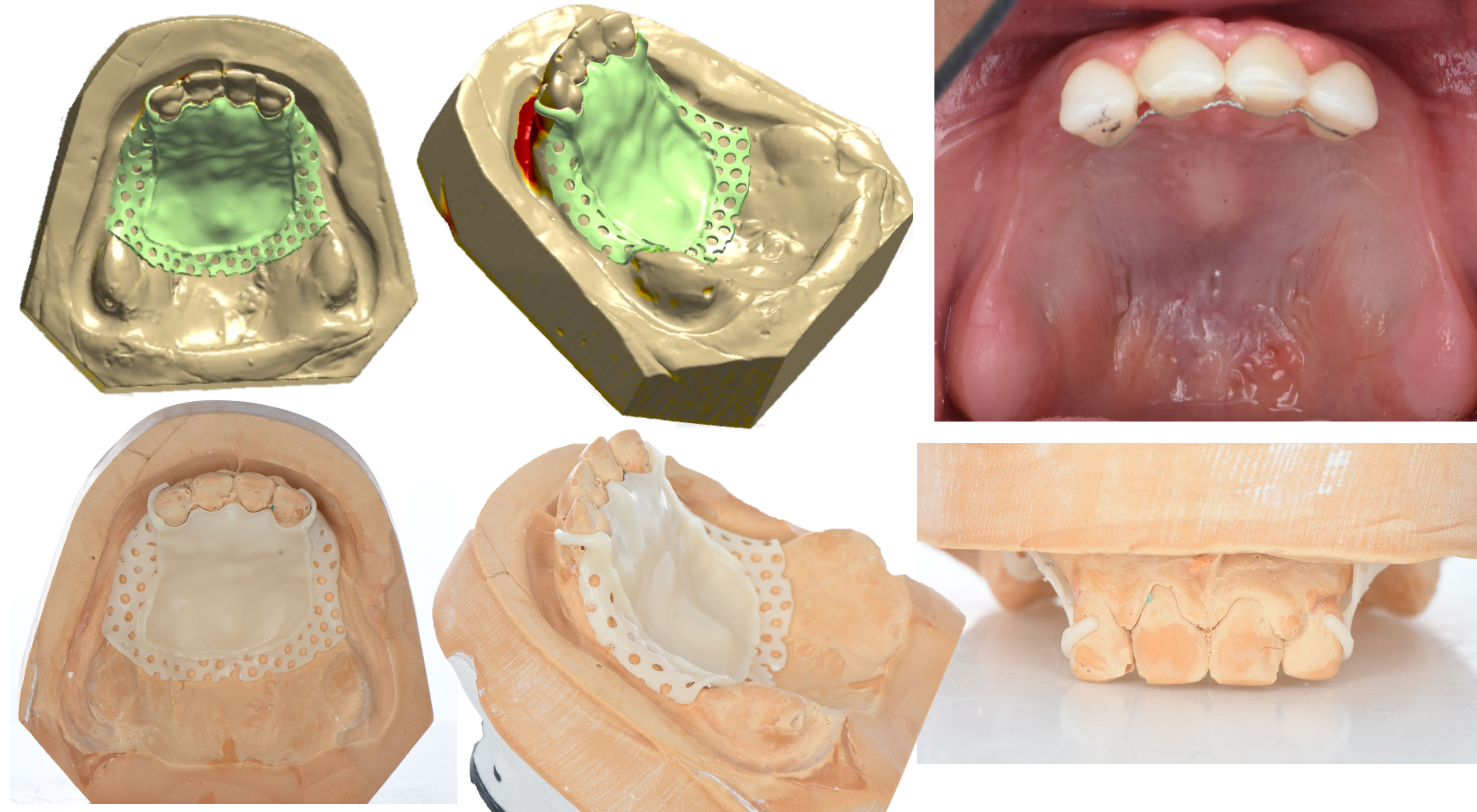
- To analyze the use of acetal frameworks for the fabrication of temporary prostheses for growing patients with ectodermal dysplasia

INTRODUCTION:

- A 16-year-old male patient presented in the Advanced Prosthodontic Clinic at The Ohio State University for a comprehensive evaluation.
- The patient was diagnosed with Ectodermal Dysplasia, an inherited disorder impacting the development of ectodermal-derived structures.
- An intraoral evaluation revealed teeth #7, 8, 9, and 10, and implants placed at positions #26 and 23.
- After a detailed assessment of the patient's medical history and dental condition, a comprehensive treatment was planned with a Maxillary Removable Partial Denture against a Mandibular Implant-supported Overdenture.

METHODOLOGY:

- A diagnostic intraoral scan was taken for the design of the maxillary prosthesis.
- CAD/CAM software was used to design the framework of the RPD.
- Digital workflow was used to evaluate the path of insertion, block outs, major connectors, minor connectors, rests, and clasps
- The selection of framework material was guided by the patient's current growth.
- Acetal framework for the Maxillary partial denture was selected for the fabrication of the RPD.



METHODOLOGY:

- Acetal is a copolymer, also known as Polyoxymethylene, highly crystalline, with a high tensile and flexible strength
- It has a high resistance to fatigue, low friction, minimal moisture absorption, and dimensional stable.
- The major connector outline was expanded to its maximum extent with a thickness of 2.5 mm.
- Retentive clasp was designed with a 0.5 mm undercut and a thickness of 2 mm.
- Acetal was milled, inspected, and tried intraorally
- Jaw Relationship records were taken. The teeth setup was tried in.
- Mandibular Overdenture and Maxillary RPD were processed with heat-cured PMMA
- Maxillary and mandibular prostheses were delivered

RESULTS:

- It was demonstrated that the properties of Acetal for the framework of a removable partial denture can be suitable as treatment in growing patients with Ectodermal Dysplasia
- Polyoxymethylene is a copolymer with high color stability, with a lightweight.

CONCLUSION

- The semi-flexibility composition of Acetal can address patient growth while providing good stability for a framework of a partial removable denture.

REFERENCES

