Prosthodontic Management of a Pediatric Patient with Dentinogenesis Imperfecta

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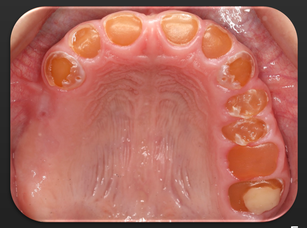
Objective: In individuals with Dentinogenesis Imperfecta (DI), teeth appear brown/blue or opalescent brown. Radiographically, crowns appear bulbous with small or obliterated pulp chambers and roots appear narrow with small or obliterated canals. Enamel fractures off of dentin are common resulting in attrition of dentin. This case report presents the management of severe DI with teeth worn off to the level of gingiva in a young patient using overdentures.

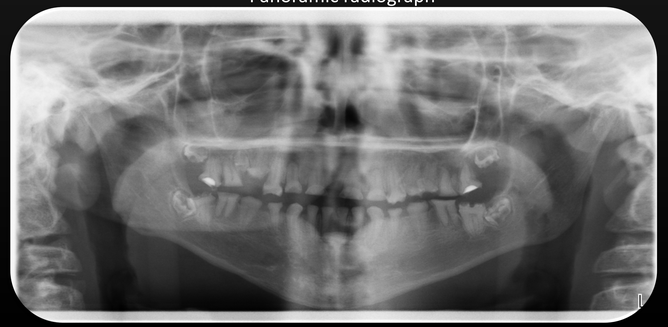
Maxillary occlusal



Mandibular occlusal

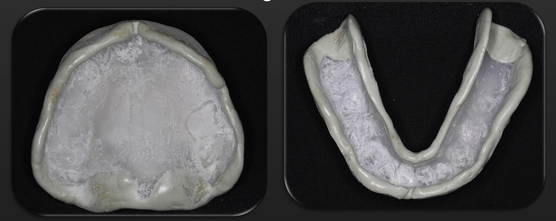
Frontal at MIP

Panoramic radiograph

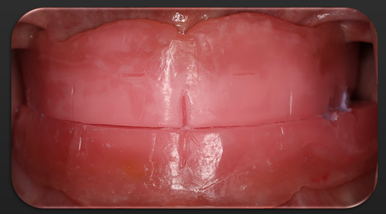


Methods: Erupted teeth were severely worn down and needed to be rounded off with great care as to not cause any sensitivity or expose pulp chambers (even though there was receding of the pulp chambers), to create an occlusal stop, and create space for the prosthesis. Final impressions were made using a border-molded custom trays and elastomeric materials. Jaw relations records were obtained and correct VDO was established. Teeth were set in cross arch bilateral balanced occlusal scheme and the dentures were heat polymerized and laboratory remount was performed. The dentures were tried in and evaluated for phonetics, esthetics, and occlusion.

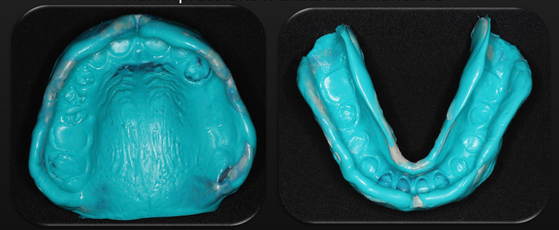
Border molding maxilla and mandible



Wax rims during jaw relation records



Final impressions maxilla and mandible



Wax up

Right lateral at centric occlusion

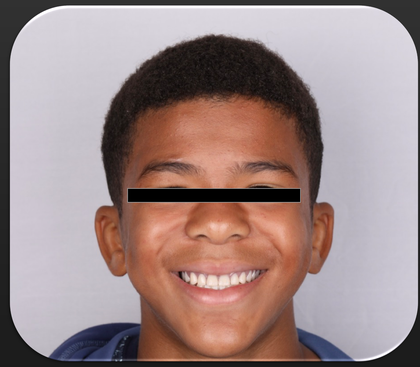
Frontal at centric occlusion

Left lateral at centric occlusion

Results: The overdentures resulted in optimum esthetics and function and provided an age-appropriate look and the confidence to enter the 6th grade without being bullied. The overdenture helped address a collapsed VDO with a Class III tendency, and provided teeth for the patient to function with.

Patient pre-treatment without dentures

Patient post-treatment with dentures



Conclusion: Overdentures can be a successful treatment for pediatric patients presenting with severe DI. Overdentures protect the remaining tooth structure and preserve the alveolar bone/ridge until the patient is old enough for extraction and implant therapy, while providing necessary function and esthetics.

Organizations Supporting this Disease

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