A CONSERVATIVE APPROACH TOWARDS PROSTHETIC REHABILITATION OF THE YOUNG FEMALE PATIENT WITH AMELOGENESIS IMPERFECTA- A CASE REPORT

Romesh Soni
1 Assistant Professor
2 Ankita Singh
3 Rajul Vivek
4 Chaturvedi T P
5 Shilpa Soni

ABSTRACT: Amelogenesis imperfecta (AI) is a hereditary disorder expressing a group of conditions that cause developmental alterations in the structure of enamel. This clinical case report describes the oral rehabilitation of a young adult female patient diagnosed with hypoplastic amelogenesis imperfecta with mutilated dentition. The main objective for the selected treatment was to enhance the esthetics, restoring masticatory function and eliminate the teeth sensitivity. Tooth-supported overdenture is used as treatment due to patient’s financial constraints. Patient was satisfied with the esthetic and functional expectations.

KEYWORDS: Amelogenesis Imperfecta, Rehabilitation, Hereditary Disorder, Esthetics, Tooth-supported overdenture

INTRODUCTION

Amelogenesis imperfecta (AI) encompasses a heterogeneous group of developmental disorders that demonstrate alterations in the enamel.1 According to the literature, amelogenesis imperfecta patients, regardless of subtype, have similar oral complications: abnormal formation of the enamel, teeth with abnormal colour: yellow, brown or grey, higher risk for dental caries, teeth sensitivity, poor dental esthetics, and decreased occlusal vertical dimension2-3. Other dental anomalies associated with amelogenesis imperfecta include, multiple impacted teeth, congenitally missing teeth, open occlusal relationship, and taurodontism4-6. Although amelogenesis imperfecta has been categorized into four broad groups primarily based on phenotype—hypoplastic, hypocalcified, hypomaturation, and hypomaturation-hypoplastic — at least 15 subtypes of amelogenesis imperfecta exist when phenotype and mode of inheritance are considered.4,5,7-9,10,11

Hypoplastic AI represents 60-73%, hypomaturation. AI represents 20-40% and hypocalcification AI represents 7% of all cases 12-14. No racial predilections of the AI have been reported.15 Both primary and permanent dentitions are usually affected.13,15,16-19

The most commonly used classification was proposed in 1988 by Witkop, and revised by Nusier in 200420. Classification Of Amelogenesis Imperfecta (Witkop And Sauk)21,22 This article reports a case of amelogenesis imperfecta, hypoplastic type and a conservative approach towards prosthetic rehabilitation of the young female patient.
Case Report

A 25-years-old female patient reported to the Department with the chief complaint of multiple missing teeth. Intra-oral examination revealed multiple missing teeth in both arches. The remaining teeth were malformed, rotated with spacing also representing typical case of amelogenesis imperfecta, hypoplastic type. (Fig.1,2) Dental history revealed multiple extraction done in last few years. Treatment planning for the patient was done keeping in mind the preservation of remaining teeth as patient was not keen for any further extraction. Implant supported prosthesis as an option was not decided as the patient was not ready to bear the expenses. Therefore, tooth-supported overdenture was the final treatment plan.

Treatment was initiated with making of primary impressions. Undercuts were blocked in the cast and surveying was done. Casts were duplicated. 2 sheet thick modeling wax was adapted on the denture bearing area. Heat-cure denture base() were fabricated for both arches and were relieved wherever required. (Fig.3,4a,4b) Jaw relation records were made in conventional manner. Jaw relation record revealed inter arch space therefore teeth setting was done and denture was cured in heat cure acrylic resin. After finishing and polishing, denture was delivered.(Fig.5,6,7) Patient was instructed for denture care. Recall evaluations were done regularly, at an interval of 1 month each for 3 months during which the patient did not experience any complication associated with the oral rehabilitation. After a follow up of one and a half years the patient did not present any signs and symptoms of abnormal function and was satisfied with both, function and esthetics

Discussion

Amelogenesis imperfecta is a developmental, often inherited disorder, affecting dental enamel. The clinical management of an esthetically demanding, complex functional prosthodontic rehabilitation is a challenge.
Accurate diagnosis, proper treatment planning, prudent choices of materials, treatment execution are prerequisites for successful treatment outcome over a long period. Treatment planning in cases of mutilated natural dentition is a task that ranges over an extensive period. Treating the patient with AI is important for functional and psychological reasons, some patients need only oral hygiene instructions, while others need extensive dental treatment. Currently, the cases of AI are restored with adhesive restorative techniques, overdentures, fixed partial dentures, full porcelain crowns, porcelain fused-to-metal crowns and inlay/onlay restorations constitute the contemporary treatment modalities.

In the following case report, the other treatment options like lumineers, all ceramic crowns, implant-supported restoration for the missing teeth and Veneers were not opted due to financial constraints.

CONCLUSION

Full mouth rehabilitation of a mutilated natural tooth is always a prosthodontic challenge. Various restorative material and treatment options have been used for this treatment. Careful balancing of the risks and benefits of different treatment options and prudent clinical judgment are essential for a predictable long term treatment outcome for prosthodontic treatment.

References


Corresponding Author

Dr. Romesh Soni
Assistant Professor
Faculty of Dental Sciences, IMS, BHU, Varanasi
Phone no. 09616803332
Email : rsoni80@yahoo.com