



**AMELOGENESIS IMPERFECTA- A COSMETIC WAY OF DEALING IT: A CASE
REPORT**

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ABSTRACT

This clinical case report describes the oral rehabilitation of a young adult female patient diagnosed with hypoplastic amelogenesis imperfecta with some inadequate, deteriorated restorations. The main objective for the selected treatment was to enhance the esthetics, restoring masticatory function and eliminate the teeth sensitivity. Fixed Prosthodontics is used as treatment. One year recall examination revealed patient's esthetic and functional expectations were satisfied and no pathology was associated with the rehabilitation.

Keywords: Amelogenesis Imperfecta, Mutilated Dentition, Faulty Restoration, Fixed Prosthodontics

INTRODUCTION

Amelogenesis imperfecta (AI) is a group of inherited abnormalities of dental enamel [1-3]. It may be differentiated into three main groups: hypoplastic, hypocalcified, and hypomature, depending on the clinical presentation of the defects and the likely stage of enamel formation that is primarily affected [2]. Each main clinical group of AI may be further divided into several subgroups

depending on the mode of inheritance, as well as the clinical appearance of the defective enamel [1-3] although in some cases, overlapping clinical features may make distinction difficult. At least fifteen subtypes of AI exist when phenotype and mode of inheritance are considered. Based on literature regardless of subtype, AI patients have similar oral complications like teeth sensitivity, poor

dental esthetics, multiple impacted teeth, congenitally missing teeth, open occlusal relationship and decreased occlusal vertical dimension [1, 4, 5].

This clinical report describes the sequenced treatment for a young female patient with mutilated natural dentition caused by amelogenesis imperfecta and inadequate restorations.

Case Study

A 23 year old female diagnosed with AI hypoplastic type presented for prosthodontic treatment. Her primary concerns include dissatisfaction with the shade of her teeth, poor masticatory efficiency and tooth sensitivity. The patient's detailed medical, dental and social history did not reveal any contraindications to dental treatment. Clinical and radiographic examination of the patient showed composite build up in the all labials of anteriors, two all metal crowns in posterior, carious lesion with the existing deteriorated amalgam restoration in the posterior teeth, two missing teeth, angle class 1 dental relationship, generalized attrition, and hypersensitivity. At the age of 14 years of the patient composite built was done to improve the esthetics of the anterior teeth, but it is inadequate to satisfy the patient esthetic demands, and the palatal and lingual sides of

the anterior teeth were not covered (**Figure 1**).



Figure 1: Pre-operative OPG

Diagnostic impressions were made with irreversible hydrocolloid impression material and diagnostic casts were fabricated from type IV dental stone and mounted on a semi adjustable articulator using a face bow transfer and a centric relation record.

Treatment plan was developed and discussed with the patient. The missing teeth were to be replaced with a 3 unit metal ceramic FPD. Due to severe close pulp approximations of 14, 24, 25,35,37,44, 45, 46, 47 these teeth were advised for endodontic intervention. The remaining natural teeth were to be restored with metal ceramic restorations. The treatment plan was accepted by the patient.

Following a dental prophylaxis and oral hygiene instructions, the patient was placed on a 0.12 % chlorhexidene gluconate oral rinse to be used twice daily. Maxillary posterior teeth were prepared for metal ceramic restorations. Laboratory processed provisional restorations were temporarily

luted. After establishing the posterior stop anterior teeth were prepared for porcelain fused to metal restoration and temporization done. Definitive impressions of the prepared maxillary and mandibular teeth were obtained using vinyl polysiloxane impression material. Working casts were fabricated using type IV dental stone. From these casts twenty five individual metal ceramic crowns and a three unit metal ceramic FPD were fabricated. The crowns were then evaluated intraorally, adjusted and luted with Glass Ionomer cement. The patient was evaluated at three months intervals for a year. The patient did not experience tooth sensitivity or any other complications associated with oral rehabilitation. The patient's esthetic and functional expectations were also satisfied (Figures 2 & 3).



Figure 2: Pre-operative view



Figure 3: Post-operative view

DISCUSSION

The clinical management of an esthetically demanding, complex functional prosthodontic rehabilitation is a clinical challenge. Accurate diagnosis, proper treatment planning, prudent choices of materials, treatment execution are essential for a successful treatment outcome over a long period. Treatment planning in cases of mutilated natural dentition is a task that ranges over an extensive period. When discussing an ideal objective to be achieved it is impossible to take into account the advances in clinical techniques and materials. A published survey in 1993 and 2005 reported the importance of treating the AI patient from psychosocial health standpoint rather than only functional point of view [6, 7]. Further the survey revealed that AI patients experience higher level of social avoidance combined with a reduced perceived quality of life compared to the normal and the treatment has a positive psychosocial impact.⁶ In this case porcelain fused to metal restorations was used because of the well documented long term clinical track record of this restoration [8-10]. The financial constraints of the patient kept away the other treatment options like Lumineers, all ceramic crowns, implant supported restoration for the missing teeth and Veneers.

CONCLUSION

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

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