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內文：

※ Aim

The purpose of this case report is to present the esthetic and functional rehabilitation of the teeth in a 22-year-old patient with Amelogenesis imperfecta (AI).

※ Introduction

Amelogenesis imperfecta (AI) is a rare developmental abnormality of the tooth enamel, with a variable occurrence of approximately 1:4000 to 1:14000 in Western populations. AI results in poor development or complete absence of the enamel of the teeth caused by improper differentiation of ameloblasts.

Although the hypoplastic subtype of AI (hypocalcified and hypomaturation being the other two subtypes) does not directly increase the risk for the development of caries in the affected teeth, the absence of normal enamel morphology invariably results in diminished occlusal function, and often in severely compromised esthetics.

Dental features associated with AI include: quantitative and qualitative enamel deficiencies; pulpal calcification, taurodontism and root malformations; failed tooth eruption and impaction of permanent teeth; progressive root and crown resorption; congenitally missing teeth; and anterior and posterior open bite occlusions.

It is common for AI patients to receive little or no oral healthcare during childhood. Pitted enamel surfaces may predispose AI teeth to plaque accumulation, but the spacing of the teeth may reduce interproximal caries susceptibility. Oral hygiene has to be maintained at a high level if a favorable long-term prognosis for restorative procedures is to be achieved.

Treatment objectives for the young adult patient also include the relief of pain and the improvement of facial esthetics and function. Most reports of the treatment of AI in the dental literature have involved children and young adolescents. There are just a few reports regarding the oral rehabilitation of older persons.

※ Case Report

General Data

- Name : Unknown
- Gender : male
- Age : 44 y/o
- Native : Unknown
- Marital status : Unknown

Chief Complain

Esthetic and functional inadequacy of permanent teeth along with considerable tooth sensitivity.

History

Detailed medical, dental, and social history was obtained.

Personal History

Reluctant to brush because of the sensitvty of his teeth → **Oral hygiene was unsatisfactory**

Family History

The patient stated his aunt who lived in a faraway city was the only one to have such an appearance to her teeth. → **hereditary AI**

Oral examination

- Teeth
 - ◆ Missing : 18 17 16 28 27 38 37 36 48 47 46
 - ◆ Amalgam Filling : 24 25 26 35 45
 - ◆ Decay
 - ◆ Gingivitis
- The enamel of all remaining teeth was hypoplastic and yellow-brown in color.
- The surfaces of the teeth were rough, and the enamel was either not visible or very thin over the crowns of all teeth.
- The dentin, where it was exposed, was brown and hypersensitive.
- The left maxillary and mandibular premolars were in a cross-bite relationship.



- 2 mm anterior openbite



X-ray finding

- Normal pulpal morphology
- The enamel appeared to be very thin or missing in the anterior region.
- The enamel of the teeth appeared to have the same radiodensity as dentin.
- No other abnormalities were observed.

Treatment

- His parents stated they could not afford implant therapy. And the patient also stated he did not want to wear a

removable partial denture.

- Using cantilever bridges to replace the missing first molars in the absence of distal abutments
- The patient was informed about the disadvantages of cantilever bridges.

- Because all molar teeth except the maxillary left first molar were missing and the vertical dimension had to be increased, fixed prosthetic restorations were selected.

~ *Initial Phase* ~

- the plaque accumulation was removed by providing a professional cleaning and then conservative restorative treatment was performed.

~ *Later Phase* ~- *Posterior Preparation* -

- Procedure :

§ chamfer preparations of **the premolar and canine teeth** were done for metal-ceramic restorations.

§ Impressions were taken using polyvinyl-siloxane impression material using stock trays

§ Interocclusal relationships were recorded. **The vertical dimension was increased by 2 mm in the incisor region in order to restore the premolar teeth in a favorable occlusal relationship.**

§ All prepared teeth were restored with provisional crowns.

§ The occlusal records were transferred to a semi-adjustable articulator with a facebow and the final casts were mounted.

§ Metal-ceramic cantilever crowns were fabricated in a licensed dental laboratory.

§ Following the metal framework and ceramic try-in sessions, the metal-ceramic crowns were cemented temporarily using (Temp Bond NE, Kerr, Salerno, Italy).

- The preparation of central and lateral incisors was delayed by three weeks in order to **assess the**

acceptability of the new vertical dimension.

- Anterior Preparation -

- Procedure :

- § Shoulder preparations for central and lateral incisors were done for full-ceramic restorations.
- § Impressions were made with polyvinyl-siloxane impression material using stock trays
- § An interocclusal record was taken.
- § The prepared teeth were restored with provisional crowns.
- § The same mounting procedures as was used for the posterior teeth and interocclusal records using a facebow were used for the anterior restorations.
- § The marginal fit and esthetic appearance of crowns were verified.
- § In the final steps of the treatment, metal-ceramic crowns were completed for the posterior teeth whereas the anterior teeth were restored with full-ceramic crowns.



※ Discussion

- The different materials and methods for restorative procedures currently available have made it both exciting and confusing for dental practitioners. **It should be pointed out limitations exist, and the application of techniques are not universal.**
- It has been reported adhesive restorative techniques, overdentures, porcelain-fused-to metal crowns, fixed partial dentures, full porcelain crowns, and inlay/onlay restorations are all used for the prosthodontic treatment of AI patients.
- Several studies for AI patients have illustrated the use of composite resin restorations, sealants, and other bonded resins, polycarbonate crowns, stainless steel crowns, and space maintainers to restore a mutilated dentition that may only be the result of severe attrition.
- Historically, patients with AI have been treated with extractions or with the construction of complete removable dentures.
 - Psychologically harsh
- In the present case :
 - # posterior teeth → a porcelain fused to a precious metal alloy approach
 - # anterior teeth → all ceramic crowns
 - # Both the marginal fit and the color acceptability of the restorations were satisfactory.

※ Summary

- The complexity of the management of patients with AI supports the suggestion the dental profession should have appropriate methods for the rehabilitation of rare dental disorders.
- The treatment of patients with AI should **start with early diagnosis and intervention** to prevent later restorative problems.
- This case report describes the functional and esthetic rehabilitation of AI with porcelain-fused-to metal and all ceramic crowns.

題號	題目
1	Which option is wrong about A. I. & D. I.? (A) A. I. → open contact, square tooth shape, severe attrition (B) A. I. → taurodontism, tricho-dento-osseous syndrome (C) D. I. → cervical constriction, bulbous crown (D) D. I. → normal pulp canals and chambers
答案(D)	出處：Oral & Maxillofacial Pathology 2 nd edition, P89-P93, P95
題號	題目
2	Which one is associated with A. I.? (A) Tricho-dento-osseous syndrome (B) Gardner' s syndrome (C) Addition' s syndrome (D) Stinton' s disease
答案(A)	出處：Oral & Maxillofacial Pathology 2 nd edition, P93