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Full mouth rehabilitation of a patient with Amelogenesis Imperfecta: A case report

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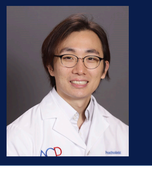
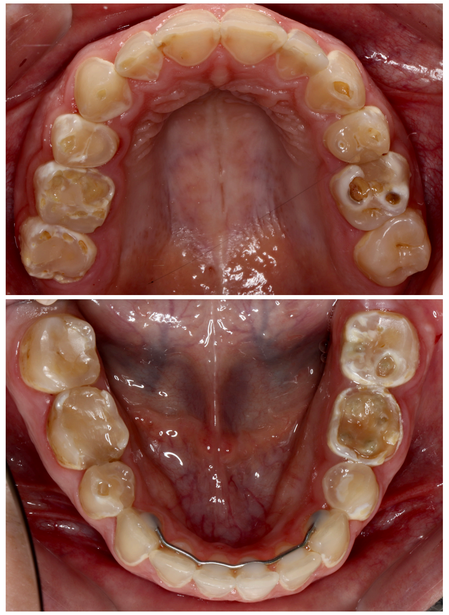


Introduction

Amelogenesis Imperfecta (AI) is a hereditary disorder that affects the development and structure of enamel. There are four types of A.I. based on symptoms, radiographic appearance and types of defects. Those are hypoplastic (type I), hypomaturation (type II), hypocalcified (type III), and mixed condition (type IV). Symptoms include discoloration, pit or groove formation, high susceptibility of tooth wear and fracture, early caries and loss of tooth. The defects create severe pain, sensitivity, loss of occlusal vertical dimension (OVD), malfunction, and poor esthetics. Full mouth rehabilitation is one of the treatment modalities to improve esthetics, function, and psychological concerns. The following case presentation demonstrates a multidisciplinary approach, including both digital and conventional workflow, in treating a patient with A.I.

Case Presentation

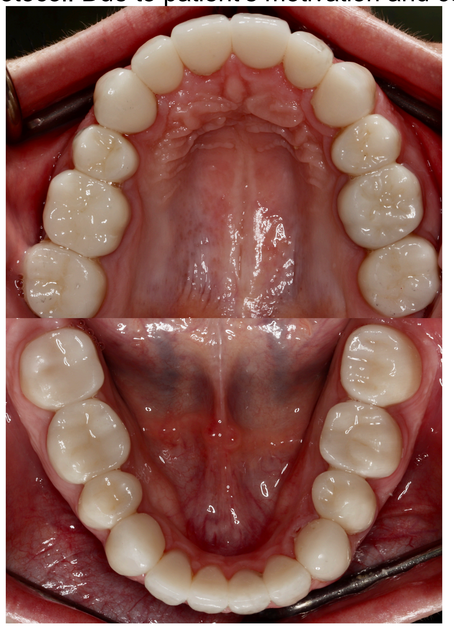
18-year-old female patient presented to the prosthodontic clinic for comprehensive examination. Her chief complaint included tooth pain and poor esthetics. After clinical and radiographic examination, patient was diagnosed with A.I. (hypoplastic). This condition was affecting the patient's confidence level. With thorough preparation during diagnostic phase with wax-up, patient was sent to periodontal department for crown lengthening procedure (maxillary anterior and mandibular posterior teeth). After adequate healing time, crown preparations were completed. Due to close proximity of preparation to pulp, patient was also sent to endodontic department for consultation. Two teeth were endodontically treated. A second set of interims was fabricated digitally at increased OVD to provide better tissue health and esthetics. All-ceramic definitive crowns were fabricated conventionally and bonded using adhesive protocols. Occlusal guard was inserted, and patient is on a 3 month recall protocol. Due to patient's motivation and compliance the long-term prognosis is good.



Pre-operative clinical appearance

Digital Design for interim crowns at increased OVD

All-ceramic crowns conventionally fabricated



Post-operative intraoral and extraoral photos with good esthetic result.

Conclusion / Clinical implications

The full mouth rehabilitation requires careful analysis with strategic planning and multidisciplinary approaches to restore not only esthetic, function, and basic quality of life, but also confidence and hope for the patient. Recent developments in digital technology can be implemented and support treatment steps for full-mouth rehabilitation.

References

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2. Sabandal MM, Schäfer E. Amelogenesis imperfecta: review of diagnostic findings and treatment concepts. Odontology. 2016 Sep;104(3):245-56

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