

Digital workflow for the rehabilitation of pediatric patients: case report

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INTRODUCTION

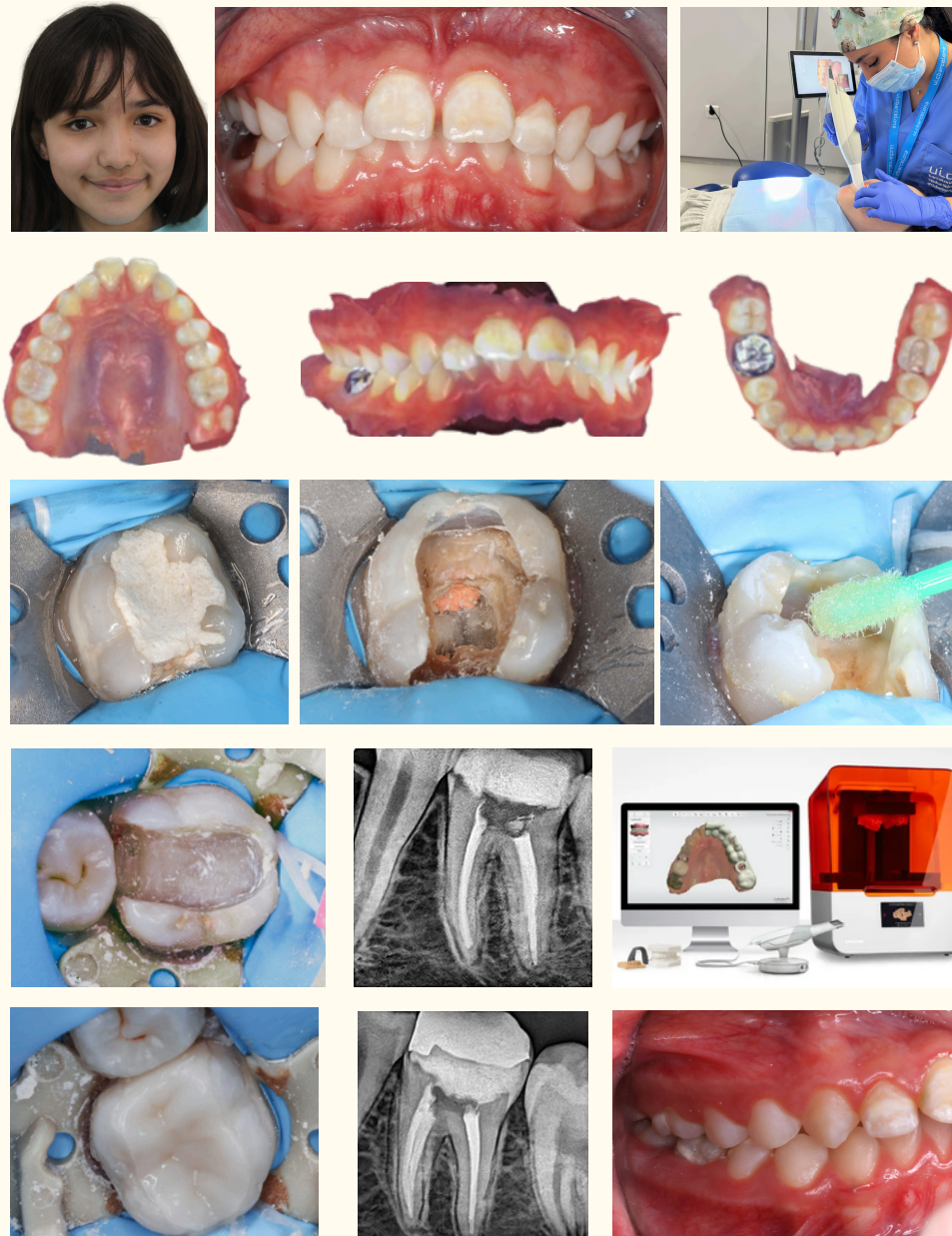
The microstructural characteristics of enamel in patients with Molar Incisor Hypomineralization MIH, increase the risk of rapidly progressing caries, which can lead to tooth loss or endodontically treatment at a very young age. The frequency of restorative interventions and the need for retreatment are higher than in patient groups without this condition, making early diagnosis essential to prevent subsequent consequences. Implementing a digital workflow using intraoral scanning and 3D printing to minimize clinical chair time and improve long-term prognosis.

CASE REPORT

A 13-year-old female patient was referred to the Pediatric Dentistry Clinic at DEPEI UNAM from the Endodontics department for the rehabilitation of tooth 19. Following a high caries risk assessment due to dietary habits, a preventive phase was initiated, including plaque control, oral hygiene instruction, prophylaxis, and topical fluoride application. After stabilization, immediate reconstruction is vital to ensure the tooth's functionality and survival. The tooth was digitized using an intraoral scanner to evaluate the remaining structure. The base of the cavity was reconstructed with fiberglass and a 3-D printed inlay was selected as the definitive restoration, enabling a "single-visit" treatment and because it offers good aesthetics.

The intraoral scanner, which uses laser or structured light to create precise 3D coordinates, eliminated the discomfort of traditional impressions, enhanced patient cooperation, and reduced procedural mistakes.

CLINICAL PRESENTATION



DISCUSSION

Rehabilitating the posterior sector with 3D-printed ceramic-reinforced resins successfully halted the progression of structural damage. This restorative approach demonstrated significant improvements in both masticatory function and the patient's aesthetic appearance.

Integrating digital workflows into pediatric dentistry offers substantial benefits. The process provides high-precision anatomical replicas through a simple, painless procedure. Furthermore, it allows for streamlined digital planning and manufacturing, which shortens appointment times while maintaining high-quality clinical standards.

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