



Tooth Replacement with a Resin-Bonded Prosthesis over Lithium Disilicate Crowns in a Patient with Amelogenesis Imperfecta: A Case Report

Bayan Abuhlimeh, DDS, Department of Restorative Dentistry; WVU, Shelby Alexander, DDS, MS, FACP, Department of Restorative Dentistry, WVU, R. Constance Wiener, DMD, PhD, Department of Dental Public Health and Professional Practices, WVU.

Conflicts of interest: none

Introduction

Patients with amelogenesis imperfecta (AI) frequently require full-coverage restorations due to generalized enamel defects and esthetic concerns. Ceramic dental restoration play a vital role in modern restorative dentistry, offering both aesthetic excellence and long-term durability.

Over time, however, these restorations may chip, fracture, or have marginal breakdown due to normal wear, trauma, or material fatigue. Conservative repair with adhesive/bonding techniques provide a cost-effective, minimally invasive solution to preserves the existing restoration and underlying tooth structure.

This case report describes the replacement of a mandibular incisor with a dual-wing resin-bonded / resin retained prosthesis adhesively bonded to adjacent lithium disilicate crowns in a patient with AI.

Ethical Statement

WVU IRB review (2630) and a case authorization form was obtained from the patient for the use of clinical information and photographs.

Clinical presentation and Treatment

A 48-year old female patient with AI (subtype not determined due to full coverage restorations) presented after dislodging a previously restored mandibular incisor (#24) while biting. Clinical and radiographic examination revealed a crown-root fracture. The tooth was deemed unrestorable. The adjacent teeth had been restored with lithium disilicate full coverage crowns.



Initial presentation



Preliminary treatment: #24 was deemed unrestorable and was extracted. Apicoectomy teeth #25 and #26 due to persistent periapical pathology.



Final treatment decision: dual-wing lithium disilicate resin retained prosthesis to optimize retention and bonding surface area. Pontic designed slightly shorter to avoid contact in centric and dynamic occlusion.

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Treatment procedure: Dental dam isolation; internal surfaces of the prosthesis and the prepared surfaces of the lithium disilicate crown treated with *Monobond Etch & Prime* for 60 seconds. Restoration bonded with *Multilink Automix resin cement*



Final occlusion: verified to be free of interferences.



Recall evaluation: At 1-, 3, and 10-month follow-ups, the restoration remained intact and stable. The patient reported high satisfaction with the esthetic and functional outcome.

Conclusions

Lithium disilicate resin bonded prosthesis is a viable option for tooth replacement in patients with ceramic abutments. Adhesive protocol, precise surface treatment, and occlusal planning reduce biomechanical stresses and enhancing restoration longevity.

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