



Case Report

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Minimally Invasive Oral Rehabilitation with Feldspathic Ceramic Veneers in a Case of Severe Dental Attrition due to Bruxism



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Abstract

Bruxism is characterized by repetitive jaw muscle activity and may lead to severe tooth wear, orofacial pain, and aesthetic impairment. This report describes a 52-year-old male presenting with marked dental attrition, loss of vertical dimension of occlusion, and incisal edge fractures. Treatment consisted of 10 feldspathic ceramic veneers from teeth 15 to 25, replacement of posterior restorations, and fabrication of a rigid acrylic occlusal splint for nocturnal use. The clinical outcome showed functional recovery, significant aesthetic improvement, and high patient satisfaction. This case reinforces that ceramic veneers, combined with accurate diagnosis, careful planning, and protective measures, can yield durable and aesthetically favorable outcomes in patients with bruxism.

Keywords: Bruxism; Tooth wear; Dental attrition; Ceramic veneers; Oral rehabilitation

Introduction

Bruxism is a condition characterized by repetitive jaw muscle activity involving clenching or grinding of the teeth, with adult prevalence estimated between 8% and 31% [1]. While often asymptomatic in the early stages, it can progress to severe tooth wear, orofacial pain, temporomandibular dysfunction, and aesthetic impairment [2]. Dental attrition, the gradual loss of hard tissue due to tooth-to-tooth contact, leads to flat wear facets, incisal fractures, and, in advanced cases, loss of vertical dimension of occlusion. Dentin exposure contributes to hypersensitivity and increases susceptibility to fractures [3]. Early diagnosis is essential to prevent complications and guide conservative interventions. Among restorative options, ceramic veneers provide excellent aesthetics, adequate strength, and color stability [5,6]. We present a case of bruxism with severe wear rehabilitated using feldspathic ceramic veneers.

Case Report

The patient S.F.B., male, 52 years old, sought dental care with an aesthetic complaint. He reported acid-related hypersensitivity,

while his spouse described nocturnal sounds similar to “chewing glass.” Intraoral examination revealed severe wear on anterior maxillary and mandibular teeth, with incisal edge fractures, attrition facets, and dentin exposure. A reduced vertical dimension of occlusion and a maxillary midline diastema were noted. The periodontal tissues were clinically stable, with mild anterior recession. A diagnosis of bruxism associated with severe dental attrition and reduced vertical dimension of occlusion was established [4].

Treatment Planning and Procedure

The treatment plan comprised 10 feldspathic ceramic veneers from teeth 15 to 25, prioritizing enamel preservation and optical integration in the anterior region. Posterior restorations were replaced to optimize occlusion and re-establish vertical dimension. After adhesive luting of the veneers, a rigid transparent acrylic occlusal splint was fabricated for nocturnal use and adjusted periodically. This approach resulted in marked aesthetic enhancement, improved force distribution, and patient-reported satisfaction [5,6] (Figures 1-5).



Figure 1: Baseline aspect showing severe anterior tooth wear.



Figure 2: Intraoral image with attrition facets and reduced VDO.



Figure 3: Ceramic veneers.



Figure 4: Try-in (dry) of veneers.



Figure 5: Final smile after rehabilitation.

Discussion

Bruxism is a risk factor for restorative failures and progressive tooth structure loss, particularly in incisors and canines [7]. Dental attrition represents gradual enamel and dentin loss due to tooth-to-tooth contact and, if untreated, leads to enamel weakening, dentin exposure, hypersensitivity, and fractures [3]. Restoring the lost enamel areas is essential to halt wear progression, reduce sensitivity, and re-establish occlusal parameters, which favors long-term restoration survival. Regarding material selection, composite resin is conservative and less costly, yet in bruxers it exhibits higher susceptibility to wear, color instability, and frequent polishing or repairs. Ceramic veneers, conversely, show superior color stability, wear resistance, and long-term clinical performance in high-esthetic-demand scenarios [5,6]. Given the need for predictability and reduced retreatment frequency,

ceramics were preferred in this case.

Within ceramic systems, lithium disilicate provides higher mechanical strength and robust clinical documentation for higher-load areas [5]. However, feldspathic ceramics offer superior optical properties with highly natural enamel mimicry, which is pivotal in anterior rehabilitations. Enamel preservation combined with functional control via an occlusal splint supported the safe indication of feldspathic veneers in this case [6]. A rigid acrylic occlusal splint, periodically adjusted, has been associated with increased longevity of ceramic restorations in bruxers [7,8]. Regular preventive follow-ups enable monitoring veneer integrity, controlling parafunction, and early management of potential failures. Accordingly, accurate diagnosis, judicious material selection, and protective strategies provide durable aesthetic and functional outcomes.

Conclusion

Feldspathic ceramic veneers can be successfully indicated in bruxism-related severe tooth wear, provided they are combined with accurate diagnosis, re-establishment of vertical dimension of occlusion, and protective measures such as an occlusal splint. Careful material selection and regular clinical follow-up are key determinants of durable aesthetic and functional outcomes [5-8].

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