COMMENTARY

A Conservative Approach for Restoring Anterior Guidance: A Case Report[1]

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Composite resins have seen tremendous advancements since the development of a glycidyl methacrylate resin by Ray Bowen in 1962.[2] Improvements on viscosity and degree of conversion came with the introduction of urethane dymethacrylate later on. Current advances on the resin organic matrix have led to highly cross-linked monomers with reduced polymerization shrinkage and enhanced conversion rate, in addition to formulations with higher color stability. Inorganic fillers have seen their own concomitant evolution in terms of particle sizes and types. From the early macrofills to today's nanofillers, strength and polishability have reached a happy medium; in that, composite resins can be used successfully in stress-bearing areas as well in the esthetic zone.[3]

Along with the evolution in the chemistry and composition of earlier composite resins came the need to meet higher standards of health care, whereby doing less may actually mean achieving more. The fathers of adhesive dentistry perhaps never fancied that one day, composites could be used in such a broad range of indications beyond the sphere of small Class III and Class IV restorations, as seen today. State-of-the-art, scientifically sound, clinically ethical dentistry is in order today for all who share the vision of minimal invasiveness to embrace.

The authors of this article introduce composite resins onto a clinical stage worthy of their scope of indications.[1] They firstly address the issues of occlusion with a very concise yet relevant literature review, which establishes the foundation for the clinical procedure described herein. The importance of stable occlusion and disclusion is well-described as fundamental parameters for rendering any restoration successful from a functional and esthetic standpoint. Today's composite resins present superior strength, and optical and color properties that allow the knowledgeable and trained clinician to perform artistic restorations, which can mimic the natural dentition while rivaling and even surpassing dental ceramics. There are numerous layering techniques that have been described since the early 1990s.[4–6] Theirs is up-to-date with current concepts of polychromatic approaches, attempting to replicate inner and outer layers according to the natural patterns of dentin and enamel. Although their selection of materials is quite logical, the use of OA2 (a composite resin dentin shade) and blue effect shades for achieving halo and opalescence, respectively, translates a misconception of the actual definition of the term opalescence. In natural enamel, opalescence is perceived as the amberish-white halo along the incisal edge and the bluish halo that is inscribed inward along the outer halo. This optical phenomenon is generated by the change of wavelengths of natural light, as it is transmitted and reflected off the natural enamel. It is a common misconception to use a dentin-like composite to establish a lighter halo. That approach produces a steady effect that does not waive with the change of light and is hence unnatural. The same is true with using a "blue effect" resin that is blue on account of blue pigments and not as a result of the reflection of blue wavelengths of light. Although the esthetic result achieved for this clinical case described in this article is very good, in light of state-of-the-art composite layering techniques, clinicians should attempt to use available materials that bear nature-mimicking optical effects, including refractive index, opalescence, and fluorescence.

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This commentary is accompanied by article, "A Conservative Approach for Restoring Anterior Guidance: A Case Report" Juan Carlos Pontons-Melo, DDS, MS, Eduardo Pizzatto, DDS, MS, PhD, Adilson Yoshio Furuse, DDS, MS, PhD, José Mondelli, DDS, MS, PhD, DOI 10.1111/j.1708-8240.2011.00483.x.

 DOI 10.1111/j.1708-8240.2011.00484.x

I commend the authors on the clinical resolution of the case presenting localized anterior tooth wear. The diagnostic and preoperative steps were methodically realized, leading to correct tooth form, proportion, and incisal edge position. Their meticulous evaluation of functional patterns on a semiadjustable articulator led to proper anatomical waxing of the worn dentition, which in turn culminated in the achievement of correct centric stops as well as functional pathways for disclusion. The case was carefully treatment planned, which resulted in restorations that were not only esthetic but functional as well. Whereas many clinicians might have treated this case through an indirect procedure, such as porcelain veneers, for "speedier" and financially more rewarding results, the authors dared to execute a time-consuming and challenging case via direct approach. The limitations of such cases were adequately discussed in the article and include, but should not be limited to, their esthetic and functional life span.

The preservation of sound tooth structures associated with their adhesive, artistic, and functional augmentation is, in my opinion, the key element to this article. Our fellow restorative dentists may feel encouraged by this work to reach similar levels of optimal results using direct composite restorations.

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 DOI 10.1111/j.1708-8240.2011.00484.x