



Conservative Treatment of Non-Carious Class V and VI Lesions

Predictable results using a flowable composite

Thomas E. Dudley, DMD

The ability to predictably bond both direct and indirect restorative materials to enamel and dentin has allowed dentists to be more conservative in tooth preparation and less invasive with treatment. Originally, GV Black classified carious lesions as class I through V, according to their anatomical location. In 1956, another classification, class VI, was added to include incisal edges and occlusal cusps.¹ Clinically, both class V and class VI lesions can be carious or non-carious, and sometimes the dentist may hesitate (for a variety of reasons) to treat the non-carious lesions when they are asymptomatic.

Non-carious class VI lesions are usually attributed to acid erosion and abrasion. Non-carious class V lesions, often referred to as abfractions, were originally believed to be caused by tooth flexure. Recently, that theory has evolved into a more multifactorial cause (ie, tooth flexure, aggressive tooth brushing with toothpaste, an acidic environment), with the term abfraction being replaced by non-carious cervical lesion.² Due to non-retentive failures (especially with class Vs) absence of decay, lack of sensitivity or discomfort perceived by the patient, and fear of overtreatment by the dentist, non-carious class V and VI lesions are often left untreated. However, when enamel is lost and dentin is exposed

due to erosion, attrition, or abrasion, it is beneficial to the patient to restore these areas to prevent them from getting worse—especially when conservative treatment options exist. After all, the earlier a condition is diagnosed and treated, the less invasive and expensive the treatment will be, and therefore, the more beneficial it will be to the patient.

Beautiful Flow Plus (Shofu), which can be used as a base, liner, or restorative, combines the precise delivery of a flowable (both a low flow and no flow option) with the strength, durability, and esthetics of the leading hybrid composites. It has improved handling, stackability, and a non-sticky consistency and is approved for all classifications of restorations, including



THOMAS E. DUDLEY, DMD
Private Practice
Alabaster Aesthetic Dentistry
Alabaster, Alabama

(1.) Pre-op. (2.) Total Etch. (3.) Applying universal adhesive. (4.) Polishing. (5.) Final restorations.

those on the occlusal surface and proximal margins. Furthermore, Beautifil Flow Plus utilizes the patented GIOMER technology with surface pre-reacted glass fillers that release fluoride and recharge the GIOMER, resulting in reduced tooth mineral solubility and decreased acid production of cariogenic bacteria.³

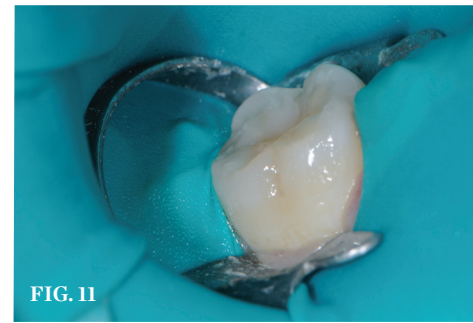
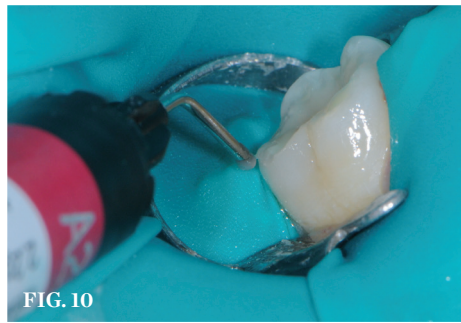
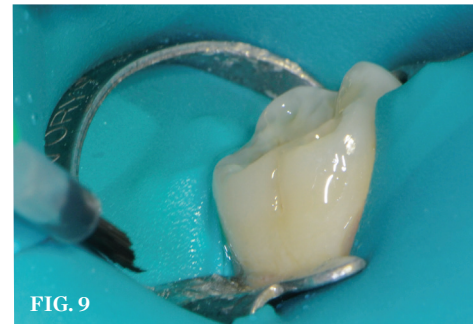
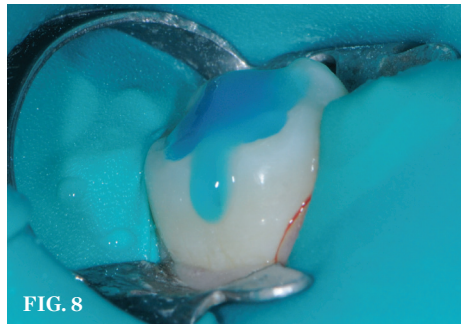
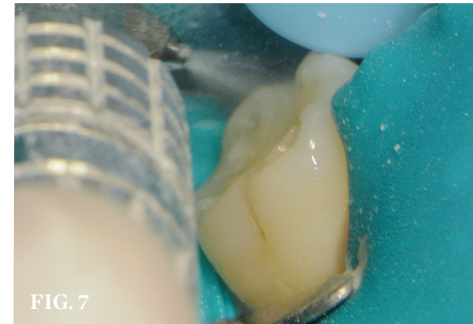
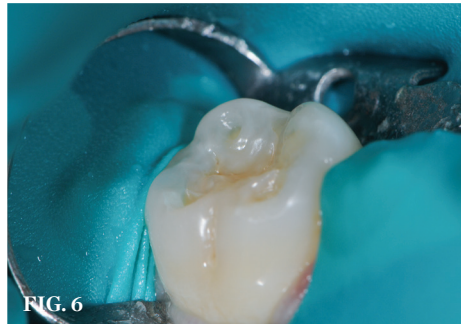
The following clinical cases demonstrate the use of a flowable composite (Beautifil Flow Plus, Shofu) to conservatively restore non-carious and asymptomatic class V and VI lesions.

Case 1

In the first case, a conservative treatment for non-carious cervical lesions on teeth Nos. 5 and 6 was recommended (Figure 1). Although the teeth were asymptomatic, the benefits of treatment versus non-treatment were explained to and accepted by the patient. To increase retention and decrease the risk of microleakage, it is beneficial to roughen the dentin with a diamond bur or micro-etcher and to bevel the coronal enamel (and apical if present) to the exposed dentin. It may be necessary to first administer a local anesthetic, but in this case it was not. Next, a phosphoric acid gel (Select HV Etch, Bisco) was placed on the beveled enamel and dentin for 20 seconds and then rinsed off (Figure 2). A universal adhesive (All Bond Universal, Bisco) was applied, the solvent was evaporated, and the adhesive layer was light-cured (Figure 3). Because of the small diameter tip, it was easy to place the flowable composite (shade A-2), and the no flow characteristic allowed it to stay where it was placed. Next, a brush was used to smooth the composite even with the tooth, and then it was light-cured. After removing any marginal flash with a fine diamond, rubber points (OneGloss, Shofu) were used to polish the restoration (Figure 4 and Figure 5).

Case 2

During a routine hygiene exam, some cupping and cratering was noticed on the occlusal surface of tooth No. 30, most likely due to acid erosion (Figure 6). The tooth was asymptomatic, but dentin was exposed, so a conservative treatment option was recommended to the patient and accepted. The tooth was isolated with a rubber dam, and



(6.) Pre-op. (7.) Micro-abrading surface. (8.) Total etch. (9.) Universal adhesive. (10.) Placing flowable. (11.) Final restoration.

without anesthesia, the occlusal surface was micro abraded with aluminum oxide, rinsed, and dried (Figure 7). As in the previous case, the same steps were followed utilizing a total etch technique and a universal adhesive (Figure 8 and Figure 9). Again, the small diameter tip allowed easy and precise placement of the flowable composite, and after light-curing, the rubber dam was removed, the occlusion was checked, and the restoration was polished (Figure 10 and Figure 11).

Conclusion

This article illustrated the use of a flowable composite to predictably and conservatively treat non-carious cervical and occlusal cusp lesions. Adhesive dentistry has allowed predictable and conservative treatment to become a reality, and improved materials have made placement easier and increased

restoration longevity. Armed with these advances and treatment options, it may be more beneficial to our patients to diagnose early and conservatively treat asymptomatic non-carious class V and class VI lesions. 🦷

References

1. Croll TP, Swift EJ. Posterior class VI adhesive tooth repair. *Inside Dentistry*. 2014; 10(10):60-64.
2. Marus R. Esthetic and predictable treatment of abfraction lesions. *Inside Dentistry*. 2011;7(6):106-108.
3. Griffin JD. Giomer restoratives: innovative solutions. *Inside Dentistry*. 2015;11(10):92.

FOR MORE INFORMATION, CONTACT:

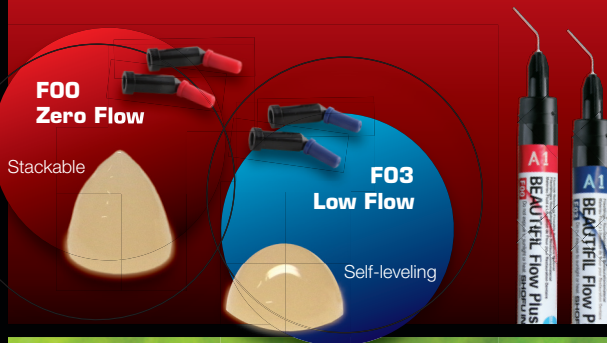
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