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Clinical Technique/Case Report

A Simple Method for Treating Subgingival Class V Lesions

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Clinical Relevance

Class V lesions can be extremely difficult to restore, particularly when the cavity margins are covered by soft tissue. It is possible to isolate and make access to the cavity easier, with a nontraumatic technique.

SUMMARY

Noncarious cervical lesions (NCCLs) are steadily increasing. Unfortunately, NCCL restorations represent one of the less durable types of restorations due to problems, including isolation and crevicular moisture control, especially in cases where the cervical margin is covered by soft tissue. This article presents a technique that allows us, through the use of a common metallic matrix, to isolate and make accessible class V cavities with intrasulcular cervical margins. The advantages and disadvantages of the technique are presented.

INTRODUCTION

Noncarious cervical lesions (NCCLs) are becoming a progressively more important factor when considering the long-term health of the dentition. In fact, the occurrence of this condition is steadily increasing.[1-4]

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Unfortunately, although NCCL restorations are a very common occurrence in clinics, they also represent one of the less durable types of restorations and have a high index of loss of retention, marginal excess, and secondary caries.[5]

Class V lesions can be extremely difficult to restore due to problems, including isolation and crevicular moisture control, adhesion, insertion technique, finishing, and polishing. Particularly complex is the management of the soft tissues when they cover the cervical margin of the cavity or extend to almost completely hide the lesion. To solve these problems, several techniques have been developed.

Rubber dam clamps, gingival retraction cord, and periodontal surgery are methods that can be used to retract and control the gingival tissues and thus facilitate access and also moisture control. Another option is a proposed association of Mylar matrix with wooden wedges and a photocured gingival barrier.[5] In any case, proper isolation is the first step for the success in restoring NCCLs but, despite being the basis for the other subsequent steps, is probably the most underestimated one.[6] The aim of this paper is to show a simple way to overcome many of the abovementioned difficulties.

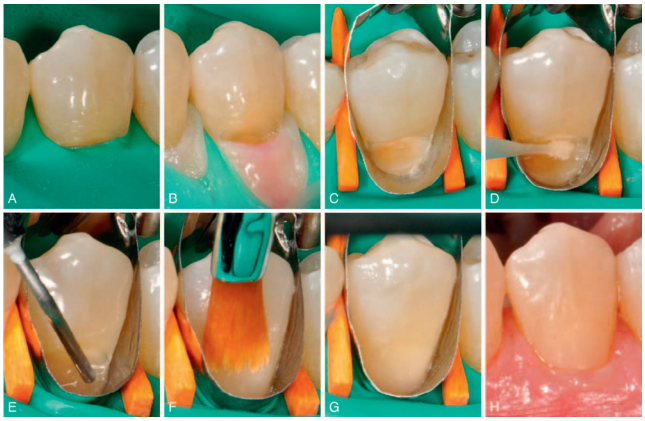

Figure 1. *(A, B): The gingiva covers the cervical margin of the cavity. (C): A round metal matrix, tilted and stabilized with wooden wedges, allows access to the entire cavity. (D): Application of the adhesive system is under full control. (E, F): Application of flowable and regular composite. (G): Restoration before finishing and polishing. (H): Final result.*

DESCRIPTION OF TECHNIQUE

A 65-year-old male presented with class V lesions with deep cervical margins on teeth 21 and 22. After placement of the dental dam, it was impossible to see the entire cavity of tooth 21 (Figure 1A) and even with pulling down the dam, the cervical margin remained hidden (Figure 1B).

The proposed method to isolate the cavity and allowed management of the cervical margin and involved the use of a circular metal matrix (Figure 1C). The matrix was tilted, pushed down adjacent to the tooth, and slid down to fit into the gingival sulcus. Once in the sulcus, the metal matrix was gently pushed to move the tissue and was finally stabilized with wooden wedges.

In this way, a suitable isolation was obtained that allowed the application of adhesive (Figure 1D), flowable (Figure 1E) and "full-body" composite (Figure 1F).

Finishing and polishing were simplified (Figure 1G), facilitating the achievement of a good integration of the restoration with the soft tissues (Figure 1H).

Also, tooth 22 had the cervical margin of the cavity hidden by the tissue (Figure 2A). Once the circular metal matrix was placed, the cavity was isolated and was accessible in its mesial extension (Figure 2B). Sometimes the approximal extensions of cavities can be difficult to isolate and manage, and they become a further complication in the restorative procedure. The metal matrix allowed safe application of the adhesive system (Figure 2C) and the composite (Figure 2D).

MATERIAL USED

The dental dam was Hygenic Medium Green (Coltène/Whaledent AG, Altstätten, Switzerland), the matrix was Automatrix Narrow Regular Band (Dentsply/Caulk, Milford, DE, USA), the adhesive system was Clearfil SE (Kuraray, Hattersheim am Main, Germany), and the composite was Supreme XTE (3M-ESPE, St Paul, MN, USA).

POTENTIAL PROBLEMS

No problems or complications were noted. It could be more complex to apply this technique in the absence of adjacent teeth, due to the difficulty of stabilizing the matrix with wooden wedges.

SUMMARY OF ADVANTAGES AND DISADVANTAGES

Advantages

The use of a metal matrix provided a valid local isolation, displaced the gingiva in a nontraumatic way, and allowed clear access to the entire cavity, including the cervical margin.

Disadvantages

This technique cannot be applied to teeth that are splinted.

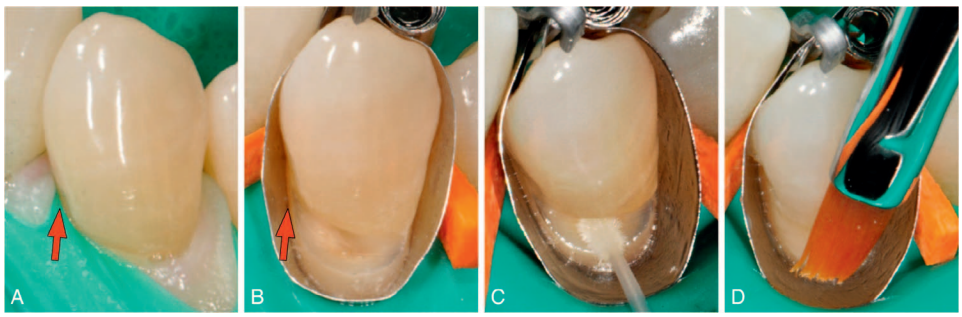

Figure 2. *(A): The cervical lesion is not visible, and, in particular, it is not possible to manage the cervical margin that extends mesially (red arrow). (B): The cavity is isolated and also accessible in its mesial extension (red arrow). (C, D): Application of adhesive system and composite.*

CONCLUSION

Ultimately, the use of the metal matrix as a means of isolation of the operative site and, at the same time, as a device capable of displaying, in a nontraumatic way, portions of the cavity otherwise hidden from the soft tissues allows for treatments that are faster and simpler.

Regulatory Statement

This study was conducted in accordance with all the provisions of the local human subjects oversight committee guidelines and policies of the University of Florence Department of Surgery and Translational Medicine–Unit of Dentistry in Italy.

Conflict of Interest

The authors of this manuscript certify that they have no proprietary, financial, or other personal interest of any nature or kind in any product, service, and/or company that is presented in this article.

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REFERENCES

1. Shay K (2004) The evolving impact of aging America on dental practice *Journal of Contemporary Dental Practice* **5(4)** 101-110.
2. Smith BG & Robb ND (1996) The prevalence of toothwear in 1007 dental patients *Journal of Oral Rehabilitation* **23(4)** 232-239.
3. Lyttle HA, Sidhu N, & Smyth B (1998) A study of the classification and treatment of non carious cervical lesions by general practitioners *Journal of Prosthetic Dentistry* **79(3)** 342-346.
4. Bader JD, Levitch LC, Shugars DA, Heymann HO, & McClure F (1993) How dentists classified and treated noncarious cervical lesions *Journal of the American Dental Association* **124(5)** 46-54.
5. Perez CR (2010) Alternative technique for class v resin composite restorations with minimum finishing/polishing procedures *Operative Dentistry* **35(3)** 375-379.
6. Perez CR, Gonzalez MR, Prado NA, de Miranda MS, Macêdo MA, & Fernandes BM (2012) Restoration of noncarious cervical lesions: when, why, and how *International Journal of Dentistry* **2012** 1-8.