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Case Report

Use of a light cured periodontal surgical dressing material in temporization: A convenient approach

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ABSTRACT

Majority of provisional restorations are fabricated directly in the mouth. However, there are several reasons where the direct technique may not be feasible and the clinician might need an indirect method. This report describes the use of a periodontal surgical dressing material (PSD) as a quick solution in such situations, utilizing it for short term temporization till the indirect provisional is fabricated. PSD's may be used for short term temporization in cases where the need of indirect temporization requires a patient to go without a provisional for a few days or the definitive restoration can be delivered in a very short span of time. It also opens up the possibility of single sitting abutment reduction at the time of periodontal surgery, using the pack for a dual purpose-healing & temporization.

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1. Introduction

There are various biological, mechanical and aesthetic roles of temporary restorations. Prevention of tooth migration, gingival ingrowth, sensitivity & pulpal involvement and aesthetic improvement are some such functions.¹ There are a multitude of materials & techniques for temporisation meant for different clinical situations. Majority of the provisional restorations may be placed chair side directly, but reasons like extensive rehabilitation, aesthetically demanding cases or

deep irregular subgingival finish lines may require an indirect technique.^{2,3} If this entails recall of the patient in a busy practice, numerous consequences of lack of provisionalisation may be anticipated.⁴ A simple method of interim temporisation using a Visible Light Cure (VLC) periodontal surgical dressing material (PSD) (Barricaid®, Caulk, Dentsply) in such cases is described here till the indirect provisional is placed. In the authors' experience, this PSD temporary survives easily for a long period and may even be replaced directly by the definitive restoration.

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2. Case report

A 25 year old male visited the dental office for crown fabrication on an endodontically treated (3weeks back) asymptomatic #45. A pre-operative impression in anticipation of routine direct provisionalisation technique was made and the tooth prepared for receiving an all ceramic crown. The position and width of the finish lines was variable and subgingivally deep on account of a large disto-occlusal cavity (Fig. 1A). After the final impression and occlusal registration, an attempt was made at routine direct temporisation, this method failed because of complex finish line anatomy.

As a result of limited time, the next appointment for temporization could only be scheduled after two days. Considering the disadvantages of no temporization for such a time period, after recording the patient's informed consent, the following procedure was initiated.

The VLC PSD was directly plunged onto the prepared tooth after light drying. It was manipulated with lubricated gloved fingers to adapt uniformly all around the prepared tooth, while removing gross excess. The patient was instructed to occlude in centric occlusion. The displaced dressing material was removed and the procedure repeated till the pack took the approximate shape, anatomy and size of the retainer. It was ensured that the pack did not interfere in any excursive movements. Finally, it was cured for 10 s from the facial, lingual and occlusal aspects. The advantage of the visible light cured pack material was that it could be added, reduced, relined or repaired when required (Fig. 1B, C).

The procedure took around 2 min and the patient was recalled the day after for seating the indirect provisional restoration. Because of an emergency, the patient could not make the scheduled appointment and returned 12 days after the reduction appointment; in this time, the definitive crown was ready.

The PSD was intact and in place (Fig. 1D). Upon removal, the gingival was healthy and the finish line unobliterated (Fig. 1E). The definitive crown was cemented uneventfully with minor proximal and occlusal adjustment and no gingival manipulation (Fig. 1F). The pack served as a space and gingival maintainer during the interim period.

3. Discussion

Though it is axiomatic to keep supragingival margins wherever possible, in many clinical situations subgingival finish lines have to be prepared due to the extent of cavity, aesthetic requirements, root fracture or to improve retention.⁵ Diode laser, electrosurgery or conventional gingival surgery are possible solutions but they are not always feasible.

Certain constraints and disadvantages of chair side techniques are (1) Marginal discrepancy due to deficient matrix support and/or flow. (2) Distortion or separation of thin margin upon removal, polymerisation shrinkage, voids, etc. (3) Locking of the provisional either due to undercuts or less retentive mould or because of incorrect timing of removal. (4) Monomer resin toxicity, allergenicity and exothermic energy issues.^{6,7} (5) Rebuilding lost anatomy or making pontic(s) is harder & more time taking.⁸

In any of the above situations or the ones described in this report, use of indirect techniques may be more feasible. Fabricating direct provisional restoration in such locations is extremely difficult and indirect temporisation may be the only option. This is time consuming and may require prompt laboratory backup. Where time is of the essence, use of the described technique as a stop gap till the indirect provisional can be placed may be of value. The pack material is resilient, low cost, and cytocompatible. Its use in temporisation may be of even greater value where teeth are being prepared in conjunction with periodontal surgery (Fig. 2), where the

Fig. 1 – Use of PSD (BP) for short term temporisation for full coverage preparation. (A) Subgingivally deep finish line on distal aspect of abutment. (B) & (C) Contoured and prepared PSD material. (D) PSD temporary as seen on 12th day. (E) Healed marginal gingiva and clear finish line with no obliteration by gingival ingrowth upon removal of PSD. (F) Definitive crown seated.

Fig. 2 – Use of PSD for dual purpose of healing & temporisation (A) Sutured surgical site. Tooth preparation was done prior to pocket elimination surgery in same sitting. (B) Periodontal pack as surgical dressing and temporary coverage. (C) Periodontal Pack removed on the 7th post-operative day. (D) Extra Coronal Restoration cemented with minimal adjustments.

material serves the dual purpose (Fig. 2) of a dressing and temporisation material.⁹

Apltauer et al compared two types of temporary materials that could be placed into inlay or onlay preparations: methylmethacrylate and a VLC periodontal surgical dressing material. The study found that the VLC material provided a novel, quick and efficient method to provide temporary inlay and onlay restorations.¹⁰

3.1. Clinical significance

Light cured PSD's can be used for short term temporisation in following situations: (1) When an indirect provisional is required for which the patient will have to return at a later date. (2) When periodontal surgery is coupled with abutment preparation. (3) If final impression after tooth preparation has to be deferred due to excessive bleeding or gingival injury.

Conflicts of interest

All authors have none to declare.

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