

Periodontal Splinting : Case Report

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Abstract:

Many materials have been used to fabricate splints for periodontally involved teeth. Older materials relied mainly on wire or silk ligatures. But the advent of dental resins and resin adhesive techniques in the late 1950s allowed clinicians to achieve better, more aesthetic stabilization techniques. This paper reports a modality for lower anterior periodontal tooth stabilization using a fiber reinforced composite splint.

Introduction

In 1995 Miller and others reported a case that involved the placement of an immediate an indirect periodontal prosthetic splint. They described the use of gas plasma treated, woven polyethylene fabric to reinforce composite resin used for periodontal splinting.¹

The initiative to place a thin but strong composite resin based splint was met with the introduction of high strength, bondable, bio-compatible, aesthetic, easily manipulated, natural color fibre that could be embedded into resin structure. This led to the development of fibre reinforcement system.²

Fibre reinforcement systems are chemically consisting of 2 groups:

- Ultra high molecular weight polyethylene fibres
- Long and short glass fibre reinforcement

Case Report

A 45 year old female patient presented with the chief complain of mobility of lower anterior teeth after phase I therapy of 2 months and occlusal adjustments, the patient had grade II mobility of 32, 31, 41, 42 teeth. IOPA was taken. Vitality of teeth was done. Teeth were vital. Splinting was planned from 33 to 43 no. of teeth. Teeth were cleaned on

the facial and lingual surfaces using prophylaxis cup with pumice and were thoroughly rinsed and dried. Lengths from 33 to 43 were measured and the fibre ribbon was cut of the equal length. Ribbon was wetted with adhesive resin and was put aside to avoid exposure to light. Horizontal grooves were then prepared on the lingual surfaces of the teeth from 33 to 43. After making the grooves they were etched for 20 seconds. Then the area is rinsed and dried thoroughly and bonding agent was applied and light-cured for 20 seconds. Flowable composite resin was placed into the grooves. The ribbon was embedded into the composite. Then the area was light cured. Composite is placed on the ribbon till complete coverage of the ribbon. Excess material was removed and finishing and polishing was done. Mobility was checked and the teeth were not mobile. The patient was educated on oral hygiene and prescription of inter-proximal brush was given.³ Patient was recalled after 3 months and clinically there was no mobility of the lower anterior teeth.



Discussion

Fibre splint material is aesthetically pleasing and comfortable to the patient. It has

highly favourable mechanical properties. When compared to metals they offer many other advantages including non corrosiveness, translucency and good bonding properties⁴. Other application for the material include immediate restoration after extracting a single anterior tooth from an intact dental arch, retaining totally or partially luxated teeth, replacing a single anterior tooth in a periodontally involved dentition where the prognosis is questionable and reinforcement of temporary bridges.

Conclusion

Fibre reinforcing materials need to be the part of an armamentarium of a periodontist. When appropriately treatment is planned, fibre reinforced resin can be highly successful for splinting perio-dontally compromised teeth. Correct patient selection, proper treatment planning and good patient's compliance will ensure success with fibre reinforced splints. Clinical research supports using this material as long term provisional splinting.⁶

References

1. Paul Van Wuijlen. A modified technique for direct fibre reinforced resin bonded bridges. clinical case report. J. Can. Dent Asso 2000; 66, 367- 71.
2. Rudo D. N. K arbhari VM- Physical behaviour of fiber reinforced resin as applied to tooth stabilization. Dental clinics of North America 1999; 43 (1) :7-35.
3. Syme SE, Fried JL, Maintaining oral health of splinted teeth. Dental Clinics of North America-1999; 43(1): 179-96.
4. New generation bonded reinforcing material for ant. Periodontal tooth stabilization and splinting. Howard E Strassler et al. DCNA, vol 43, No 1, Jan 1995..
5. Mynoz- Viverros CA. A review of the clinical management of mobile teeth. J. Contemp. Dent Pract. 2002; 3 (4) :10-22
6. Goldberg AJ, Burstone CJ. The use of continuous fiber reinforcement Dent Mater 1992; 8(3) :197-202.

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