Letter to the Editor

Microleakage of Bulk Fill Composites

Sir, I read with great interest the article entitled “The effect of two bulk fill resin composites on microleakage in endodontically treated teeth” by Tuncer S. *et al*., which has been published in your esteemed journal (The Journal of Dentist 2013;1:8-15). I want to share few of my thoughts regarding this study. (a) First of all, what was the rationale of evaluating the microleakage of two bulk fill composites on a root canal treated teeth? A non endodontically treated teeth would have suffice the need of the study. (b) The dye leakage methodology used in this study, is no more considered as a valid method to evaluate the leakage of dental materials, since it has a questionable scientific significance [1]. (c) In the beginning of the methodology, the sample size was mentioned as 24. However, later when the samples were divided into three groups after endodontic treatment, each group had only 7 samples each, accounting for total of only 21 samples. (d) Where exactly the gingival seat of the class II cavity was placed? It is not mentioned clearly. Was it above the cemento-enamel junction or below? This may affect the microleakage because, bonding of composite to the cavity walls in cementum is always challenging [2]. (e) How was the size of the access cavity standardized? It can vary depending on the maxillary premolar used since, the number of root canals varies in first and second maxillary premolar which in turn affects the surface area for bonding. Increased surface area causes increase in “C” factor which may lead to debonding of restoration and cause increased microleakage. (f) What was the thickness of each horizontal layer of composite placed in group 1? Thickness of the composite is directly proportional to the polymerization shrinkage which may lead to microleakage [3]. (g) In group 2 & 3, what type of composite was placed as the final layer on the top surface of the cavity? (h) What was the rationale of using centripetal build up technique? Why direct restoration of the proximal box was not done using different composite resin? (i) How were the apices of the teeth sealed with silver amalgam without doing a root end cavity? Instead, composite resin or glass ionomer cement could have been used to seal the apical foramen. (j) Dye leakage could have been conducted under vacuum pressure, since the validity of dye leakage studies has been questioned because of the possible effect of entrapped air on the ingress of the dye solution [4]. Studies have reported that vacuum pressure decreases the volume of entrapped air and allows complete dye penetration [5]. (k) How was interexaminers’ reliability checked? Ideally Cohen’s Kappa test should have been performed. Hence, authors can perform further similar studies using the above mentioned parameters for the better appreciation of the results.

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