

CASE STUDY ARTICLE

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MANAGEMENT OF TOOTH DISCOLORATION IN NON-VITAL ENDODONTICALLY TREATED TOOTH: A CASE REPORT

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ABSTRACT

The dental practitioner is provided with a variety of post endodontic treatment options which range from invasive methods like full veneer crowns to least invasive and aesthetic procedures like bleaching. The most important parameter in non-vital bleaching is the placement of a barrier to prevent the resorption of the tooth. The aim was to report a case of successful nonvital bleaching walking bleach and maintain the natal tooth structure, with follow up reports of 1 years. This article describes a one year follow up of a case of non vital bleaching which was performed on a root canal treated, discoloured.

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INTRODUCTION

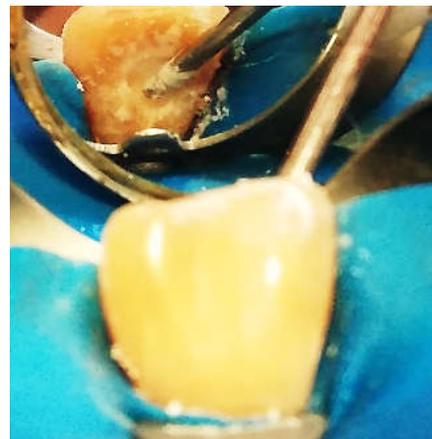
Attractive teeth have always been a typical patient's primary concern. What most people want, are teeth that make them look healthier, younger and more attractive. The sharp rise in the acceptance and demand for treatment of discolored teeth, to make them brighter, is become a big part of the practice. When the discoloration originates from within the pulp chamber, the treatment should also start from there itself (Abou-Rass, 1998). Trauma to the anterior tooth results in a nonvital tooth and discolouration which is great challenge to the clinic and to treat such young patients. As esthetic is more important in young patients as discolouration is become great challenge. Expectations of patients is high when we treat such cases without any invasion. By doing proper treatment of the teeth, we can reestablished patient's good smile and esthetic without affecting natural dentition of the patients. In the era of esthetic dentistry, bleaching of discolored teeth, either vital or nonvital, has become popular. Nonvital bleaching which is noninvasive technique has many benefits over other treatment options like full veneer crowns.

Nonvital bleaching technique is non invasive procedure, very economical, less time consuming and economical (Cohen, 1980). Internal bleaching procedures such as the "walking bleach" technique can be used for whitening of discolored root-filled teeth, which is simple and time-saving method with good esthetic and safety and best prognosis. Walking bleach technique is performed by application of a paste consisting of sodium perborate and distilled water or 3% hydrogen peroxide (H₂O₂) in the pulp chamber (Ingle, 1976). This mixture releases H₂O₂ which reacts with the staining substances. The first description of the walking bleach technique with a mixture of sodium perborate and distilled water. The present article reports the successful bleaching of discolored non-vital, endodontically treated tooth using walking bleach technique with good prognosis and no side effects (Fisher, 1990).

CASE REPORT

29-year-old female, came with a chief complains of discoloured tooth in upper front region of jaw since 4 years. Patient was apparently alright 4 years back, when she had a fall in an accident, which resulted in trauma, for which she did not report to any dental hospital. After some months she noticed her tooth was getting discoloured which gradually

severed to total discoloration of the tooth. Being concerned about her esthetics, patient then reported to Sharad Pawar dental college & complained of discoloured tooth in upper front region of jaw. Radiographic examination was done. The Diagnosis was pulp necrosis with Chronic apical periodontitis. Before the procedure Pre- and post-bleaching photographs were taken. The Root Canal therapy is performed after root canal therapy until the lesion is heal after healing Conventional endodontic treatment was performed followed by the bleaching using sodium perborate in 2:1(gm/ml). Before applying the bleaching agent, 1–2 mm of the gutta-percha was removed in an apical direction till CEJ. The tooth was then washed with 3% hydrogen peroxide solution, rinsed and dried. A base of 1–2 mm glass ionomer cement was placed over the root filling material to assure a mechanical barrier between the sealed root canal and the bleaching agent. Procedure was repeated until desired results were obtained.



2mm of GP removed from the canal, Sealing with GIC up to the CEJ Apply mixture of H₂O₂ and Sodium Perborate onto the walls of the cavity



Per operative radiography



Per operative clinical Photography



Post operative radiography



Post operative clinical Photography

DISCUSSION

The literature has reported numerous reviews on the bleaching of vital and non vital teeth; yet, there are extremely few published case reports on successful non-vital bleaching. One factor which stops the dental practitioner from performing this procedure in the clinical practice is the fear of invasive cervical resorption, which has been reported to occur in several cases following internal bleaching (Heithersay, 1994). The “walking bleach” technique that was introduced in 1961 involved the placement of a mixture of sodium perborate and water into the pulp chamber that was sealed off between the patient’s visits to the clinician (Spasser, 2001). Many studies have been done on beaching whether vital or nonvital but very few studies have their scientific evidence. Most reports have very low initial results after bleaching, with complete color matching of the bleached tooth with the adjacent one. (Ingle, 1976) However, occasionally darkening after internal bleaching can be observed which is presumably caused by diffusion of staining substances and penetration of bacteria through marginal gaps between the filling and the tooth (Griffiths, 2008). Some modifications have been done in an attempt to minimize the risk of cervical or apical resorption. Thus, a base of 1 –2 mm glass ionomer cement was placed over filling material of the root to have a mechanical barrier between the sealed root canal and the bleaching gel, which is in agreement with other studies (Friedman et al) as they did not use an intermediate lining prior to the bleaching material (Spasser, H.F.1961) Another modification added to the bleaching technique was that on reaching the desired shade guide; thus, the pulp chamber was filled by calcium hydroxide for seven days before the final filling material. This was necessary to allow for elimination of residual oxygen, which interferes with the polymerization of the filling material and to neutralize and render the medium alkaline that reduces the risk of cervical resorption (Rostein, 2002).

Conclusion

The causes of discoloration of endodontically treated teeth are well recognized, and techniques of bleaching have proved their efficacy over the years. These procedures provides a much safer bleaching technique in the course of maintaining the integrity of the tooth and above the surrounding tissue. Nevertheless, this treatment involves minimal risk. So this case report have best results to have a product providing the benefits of effective bleaching agent while eliminating the associated risks.

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