

MANAGEMENT OF A DISCOLORED ANTERIOR TOOTH FOLLOWING TRAUMA USING THE WALKING BLEACH TECHNIQUE – A CASE REPORT

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Abstract

Discoloration of teeth either extrinsic or intrinsic in the anterior region can result in considerably esthetic impairment for patients who has high esthetic demand. It often presents a challenge for the dental practitioners while dealing with such situations. Although a wide range of post endodontic restorations options are available such as full veneers, laminates, crowns, bleaching which is non invasive technique. Among the non-vital bleaching techniques, the walking bleach using sodium perborate and distilled water is by far the most opted technique because of its higher esthetic results with no considerable side effects later. The present paper highlights a case of tooth discoloration in non-vital anterior tooth which was successfully bleached after the endodontic treatment using walking bleach method without reversal of tooth discoloration with no development of external cervical resorption.

Key Words: External cervical resorption; Non-vital tooth; Tooth Discoloration; Walking bleach

INTRODUCTION

The phenomenon of colour is a complex psychophysical response to the physical interaction of light energy with an object, and the subjective experience of an individual observer.¹ A smile has been said to be one of the most important interactive communication skills of a person. Human teeth is believed to be polychromatic in nature. The color of tooth is determined by the color of the dentin along with intrinsic and extrinsic discoloration. There are various factors modifying tooth color such as Color of the enamel, translucency of the enamel, thickness of the enamel, age of the tooth, parafunctional habits. Often the first evidence of variation from normal in human dentition is an observable difference in the colour of the teeth. The most common cause of tooth discoloration is intracoronal blood decomposition.² Trauma to the anterior tooth results in a nonvital tooth and discolouration which is great challenge to the clinician to treat such cases without any invasion. By doing proper treatment of the teeth, we can re established patient's good smile and esthetic without affecting natural dentition of the patients. Intracoronal bleaching of non vital teeth has offered a conservative therapy as it satisfies esthetic deficiency without out any invasion. Walking bleach technique is performed by application of a paste prepared using sodium perborate and distilled water or 3% hydrogen peroxide (H₂O₂), in the pulp chamber.³ It is simple, good esthetic, safety, good prognosis and economical.

CASE REPORT

A 19-year-old female patient reported with the chief complaint of discolored tooth in the upper anterior region. Tooth gave no response to cold test and electric

pulp tester. The shade guide of the discolored tooth was assessed under normal daylight with a vita porcelain shade guide (vita zahafabrik). Pre- and post-bleaching photographs were taken. Conventional endodontic treatment was performed (Figure 3) 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 (Figure 4). 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 (Figure 5). Procedure was repeated until desired results were obtained. Clinical evaluation was recorded by comparing the tooth shade with its original one before treatment using the Vita porcelain shade guide and photographs. Calcium hydroxide paste was then placed in the pulp chamber for 7 days followed by restoration of the access cavity with a composite resin (Figure 8). The pre-bleaching assessment for the tooth was diagnosed as having periapical pathosis; during the follow-up period, there were signs of healing since the start of root canal treatment.



Figure 1: Pre-operative photograph

Figure 2: The shade guide of the discolored tooth was assessed



Figure 3: Conventional endodontic treatment was performed wrt 21



Figure 4: 1–2 mm of the gutta-percha was removed in an apical direction



Figure 5: A base of 1–2 mm glass ionomer cement was placed over the root filling material



Figure 6: Reviewed after 7 days



Figure 7: Reviewed after 14 days



Figure 8: Access cavity was restored with composite resin

CONCLUSION

The walking bleach technique can be adopted for endodontically treated discolored teeth because it provides a much safer techniques while maintaining the integrity of the tooth and its surrounding hard and soft tissues.

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