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Case Report

Vital Bleaching

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ABSTRACT

People are aware of the significance of the dental esthetic in our day. The more the economic level and the development of the countries increase, the more people pay attention to their dental esthetic. The discolored teeth which spoil the aesthetic appearance negatively affect social and psychological life of people. This is why people consult the dentists in order to have properly lined natural looking teeth even if they don't have any physical problem in their teeth. By oxidizing pigments in enamel and dentin tissue, it is possible to provide the desired aesthetic teeth applying chemical agents to the those lost their natural appearance and color. This article offers whitening treatment containing aesthetic approach.

Key Words: Bleaching, Hydrogen peroxide, Office bleaching

INTRODUCTION

The increasing prevalence and growth of conservative dentistry services has lead patients' requests to the aesthetic treatments besides functional treatment. A solution with whitening methods is being sought for the discoloration of the teeth which is an esthetic problem that affects the lives and psychology of people, particularly young people. [1]

Various whitening treatments have been used for many years to achieve whiter and brighter teeth. For this reason, some oxidizing agents (peroxides, chlorite and chlorine, etc.) are directly or indirectly applied to dental tissue. [2] These agents provide coloring macromolecular compounds to disintegrate into smaller pieces. [3]

In dentistry, peroxide-containing agents are quite popular among teeth whitening systems. [4-6] These agents have application areas in vital and non-vital teeth. In our study, vital whitening method is described. Vital whitening methods are discussed with three basic approaches:
Whitening methods with 'home bleaching' or 'grind guard' under the control of dentist,
Office bleaching,
Over-the-counter bleaching method [7]

Home bleaching method is a cheap and reliable whitening method. With the use of 10% carbamide peroxide, it has become a standard technique.[8] It is used as a bleaching agent applied under control of the dentist. The patient uses whitening plaque at home. The longer duration of the bleaching causes recoloration to take a quite long time.

This situation can be seen as an advantage compare to the in-office whitening. [9]

Hydrogen peroxide 'concentrations of 30-35% are used in-office whitening procedure. [10] 2-6 sessions lasting for 45 minutes are needed to be implemented using light or not. [11] The sessions should be done with one-week intervals in order not to develop the sensitivity. Hydrogen peroxide can act caustic effect on the soft tissues. Soft tissues should be isolated by rubber blanket or insulator gel. Otherwise chemical burns can occur in the tissue. In addition, penetration of hydrogen peroxide can take place on the pulp; however long pulps have been reported not to bring about the reaction. [12]

CASE REPORT

38-year-old female patient was admitted to our clinic because of discoloration from the teeth. After the patient's medical history, patient have not been found to be of any systemic disorders. After explaining treatment options to patients, vital bleaching treatment was applied. For this reason, 40% solution of HP was used in this case (Figure 1).

Figure 1: A. The patient's pre-treatment B. Soft tissues' isolation with gingival barrier C. 40% HP implementation (2 times at 15 minute intervals) D. The treatment results after application of HP E. After the administration of hydrogen peroxide, treatment was suspended for fifteen days.

Later patient's maxillar anterior teeth (FDI number 21) were restored using composite resin and treatment was terminated.

DISCUSSION

Since toleration level varies from person to person, and some patients can not tolerate gels long-term treatment. [13] Along with this, the most common problems seen in vital bleaching treatment are gingival ulceration, tenderness and skin burns created by agents. The reason of this irritation is that

the patients can not set the quantity properly, the force applied to the teeth by the carriers, the carriers couldn't be placed well and low molecular-weighted peroxides reach to pulp passing dentine and enamel. [14]

While on one hand there are researches stating that when using hydrogen peroxide and carbamide peroxide, there is no significant difference in terms of sensitivity and gingival irritation; [15,16] on the other hand it has been reported that there are studies showing hydrogen peroxide increase soft tissue irritation. [17]

Light-hardened gingival barriers are more dependable than rubber-dams in ginviva sealing. But because they could not cover the lips and tongue, one should pay attention when use them. [18]

Zekonis et. al., [19] in one of their study in which they used 10% carbamide peroxide, and 35% hydrogen peroxide, pointed out night use of carbamide peroxide for 14 days provides more whitening than two course of hydrogen peroxide therapy lasting 30 minutes with 1 week intervals.

Marson et. al. [20] informed in one of their study that while in-office bleaching and homebleaching systems are used together, optimal color stabilization will be achieved, implementation period will be shortened and the amount of tooth sensitivity and irritation will decrease.

In practice teeth whitening, patient's cooperation is very important for success. Bleaching applications should be done in a proper manner and under the control of physicians by also taking the patient's expectations into consideration.

CONCLUSION

Providing the desired esthetic is dependent on the correct implementation of whitening treatments, placing a correct indication, on the region where the coloring agent is implemented, the patient's eating habits and whether the patient cares his/her oral hygiene or not. In order to perform the bleaching treatment effectively, agents with increased hydrogen peroxide content was produced. However; only these agents and physician's experience is not sufficient for treatment success. Cooperation of the patient is also very important. Nowadays, when cooperation with the patient is properly provided, we may be able to achieve the desired aesthetic.

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