



In Office Vital Tooth Bleaching: A Case Series

Akanksha Bhatt^{1*}, Sugandha Sati¹, Advaita Anand¹, Ayushi Bangari¹, Aryama Balodi¹ and Anil Dhingra²

¹Post Graduate 3rd Year Student, Department of Conservative Dentistry and Endodontics, Seema Dental College and Hospital, Rishikesh, India

²Professor and Head, Department of Conservative Dentistry and Endodontics, Seema Dental College and Hospital, Rishikesh, India

***Corresponding Author:** Akanksha Bhatt, Post Graduate 3rd Year Student, Department of Conservative Dentistry and Endodontics, Seema Dental College and Hospital, Rishikesh, India.

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Abstract

Aim: The purpose of this case report is to analyze the result of in office vital bleaching

Materials And Method: In office vital tooth bleaching was done using Pola office

Keywords: Office Bleaching; Pola-Office; Pre-Bleaching; Post-Bleaching

Introduction

Teeth discoloration is because of extrinsic and intrinsic stains. The noninvasive and conservative remedy for stains is teeth bleaching.

Presently, the most popular systems for in-office bleaching use hydrogen peroxides and are regularly referred to as “one hour bleaching.” As affected person demands short results, as a result bleaching strategies have become popular [4].

Several workplace bleaching marketers like plasma arc, laser is used. Additionally self-activated bleaching agents are equally effective with minimum damaging effect on teeth structure.

One can use one of the light superior bleaching techniques, a laser-activated bleach or simply a paint on bleaching gel or solution.

For the in-workplace, mild better structures, normally the mild can most effective be used for bleaching. One light

machine is primarily based on a plasma arc excessive-depth photopolymerization device that may be used for in-office whitening and for resin photopolymerization [1].

These hydrogen peroxides varies from 25% to 35%. The case reports provided in this article indicates approach for in office vital enamel bleaching using Pola office.



Figure 1: Pola office.

Case report 1

A 40-year-old female patient came with a chief complaint of yellowish discoloration teeth reported to the department of Conservative Dentistry and Endodontics and to get the teeth treated for esthetic purpose.

On clinical examination yellowish discoloration of upper and lower teeth was seen. Tooth vitality was carried by using electronic pulp vitality tester and all teeth were found to be vital.

Clinical photographs were taken before initiating the procedure. The teeth were cleaned and dried followed by Liquid Dam i.e., Gingival barrier application and cured in order to isolate and protect gingiva.

Photo curing of bleaching agent was done using light unit for 8 min. Bleaching agent was removed using air water syringe followed by final polishing.

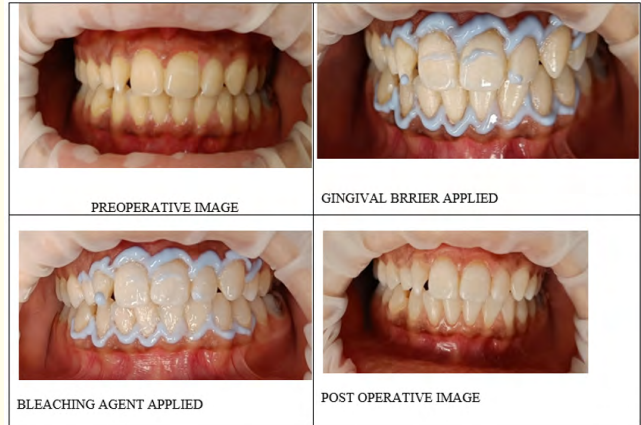


Figure 4

Postoperative clinical photographs were recorded and postoperative instructions were given. Patient was recalled after 1 week for evaluation. There was marked improvement in tooth colour and patient was satisfied with final result.

Case report 2

A 28-year-old female patient came to the department with the chief complaint of yellowish discoloration since 7 months. No history of sensitivity or pain. Non relevant medical history.

On clinical examination generalised yellowish discoloration was seen. Diagnosis made was generalised discoloration and the treatment plan made was vital tooth bleaching.

Preoperative image was taken. Optragate was placed to retract cheek and lips. oral prophylaxis was carried out with prophylaxis paste. Gingival barrier was placed and cured for 15 seconds.

Pola office bleach with 37% hydrogen peroxide was placed and light cured for 10 minutes. The gel was then suctioned back following which the teeth were thoroughly rinsed. Patient was reevaluated in 10 days for results.



Figure 2

Pola office was chosen as bleaching agent. Bleaching gel and powder was taken equally and mixed until thick homogeneous mixture was obtained and applied over teeth using applicator tip.



Figure 3: Post operative.



Figure 5: Preoperative photograph.

Case report 3

A 30 year old male reported to the department of conservative dentistry and endodontics with a chief complaint of discoloration in the upper and lower front and back tooth region since 3 months.

When examining patients, important clinical parameters to focus on are good periodontal health, little or no gingival recession, and absence of caries. In addition, questions about the history of tooth sensitivity were also asked. The importance of this is that patients with a history of tooth sensitivity will occasionally experience mild to moderate tooth sensitivity for 24 hours after in-office whitening. In this patient's case, she has no history of tooth sensitivity.

Treatment procedure

Pre-operative photos were taken. The patient's initial shade is an A3, which is verified by a digital shade-taking device (Vita Easy shade Compact).



Figure 6

For this patient, Pola Office was chosen to contain 35% hydrogen peroxide, facilitating a large scale whitening procedure with start to finish time of less than an hour. Teeth are cleaned with a pumice

stone. Teeth are dried, a gum protector is applied and the light is cured in a fan motion.



Figure 7: Photo activation of the bleaching gel.

With a Pola Office syringe, the tip is securely attached and the plunger is carefully withdrawn to release pressure. The contents of the syringe were carefully extruded into the vial and mixed immediately with a brush until the gel was homogeneous. A thick gel is then applied to all treated teeth. The gel is left on the tooth surface for 8 minutes. An optional curing lamp may be used according to the manufacturer's instructions.



Figure 8: One month follow up.

The patient was asked to return in 30 days to evaluate the results. Using standard visual examination and confirmation with VITA Easy shade Advance a noticeable shade change has occurred. The postoperative shade is now A1.

Case Report 4

A 27-year female patient came to the department of conservative dentistry and endodontics with the chief complaint of over all discoloration of her teeth and wanted treatment for the same. Patient gave no history of pain or sensitivity.

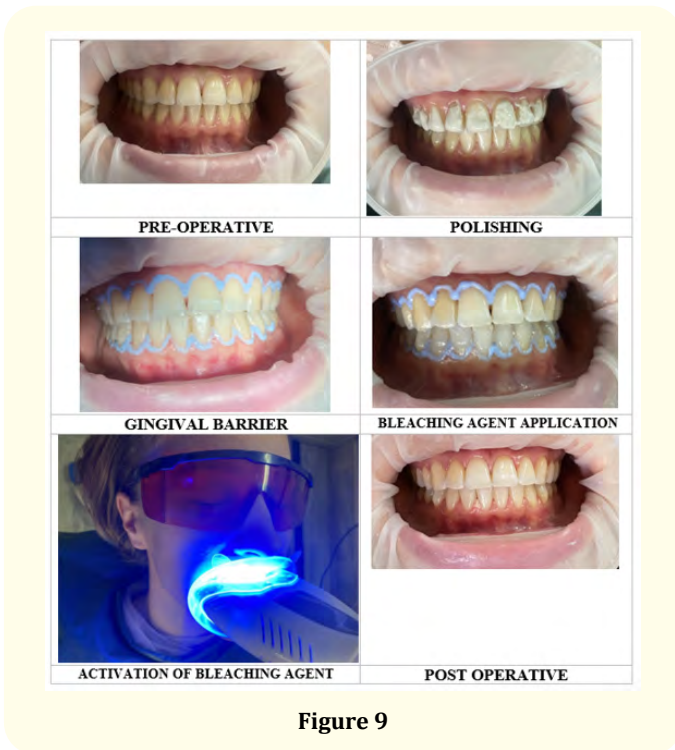


Figure 9

On Clinical examination there was the presence of generalised yellowish discoloration maxillary and mandibular incisors and white patches on the facial surface of few teeth. In office, bleaching procedure was then planned for the patient. Tooth vitality was performed using the electronic pulp tester (EPT) and all teeth were found to be vital. Radiographic examination was also done for the presence of any periapical pathology. After all the above procedures were performed, the shade selection was done using a color shade guide (Vita Classical). Oral prophylaxis and polishing were done before initiating the treatment. Optra gate was used to retract the lips and cheeks in this case. After appropriate isolation and retraction the gingival barrier was applied on to the teeth and was light cured for 20 seconds.

In this case we use Pola office which contain 35% hydrogen peroxide and potassium nitrate which acts as a desensitizer. All the Contents of the syringe were taken out and were mixed until the homogeneous mix was obtained and then it was applied all over the teeth using an applicator tips and left for 10 minutes and was cured using a curing light. After that bleaching agent was removed using water spray and final polishing was carried out. Patient could notice marked difference in her tooth color and was satisfied with the results.

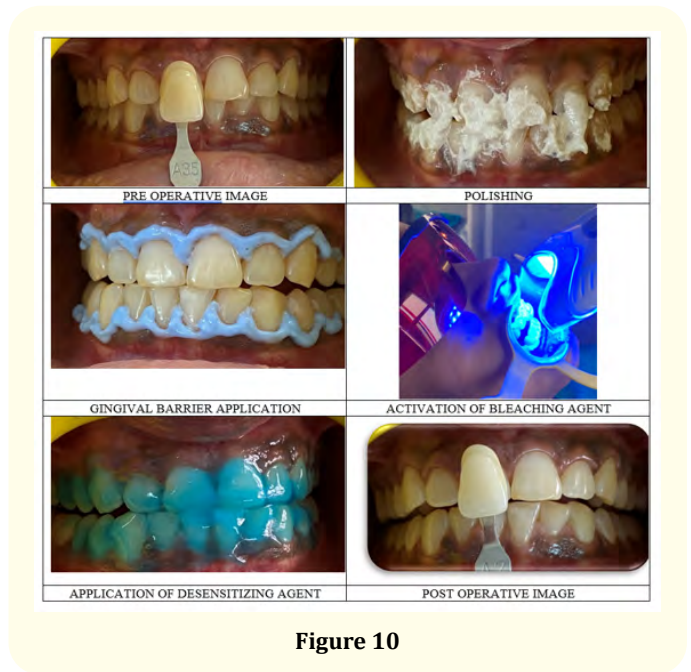


Figure 10

Case report 5

A 22-year-old male patient reported to the Department of Conservative Dentistry and Endodontics with the chief complaint of yellowish discoloration of teeth. The patient had good periodontal health, no history of sensitivity and no gingival recession.

Pre operative shade was A3.5. Teeth were first cleaned with pumice slurry, dried and gingival barrier was applied and light cured.

A layer of immediately mixed Pola office gel was applied and activation was done using light cure. Two applications were used to complete the in office procedure and then the gel was wiped with cotton and washed off. Then desensitizing agent was applied for 3 to 4 minutes.

The post operative shade was A2.

Discussion

Bleaching is the lightening of the tooth colour by the application of a bleaching agent to oxidize the organic pigmentation in the tooth. The goal of bleaching procedure is to restore of normal tooth color by decolorizing the stain.

With in-office bleaching, adequate isolation and protection of mucosal tissues is necessary. Dentists may prescribe NSAIDs pre bleaching due to unpredictable post-treatment sensitivity.

This technique of teeth whitening, employs 35-40% hydrogen peroxide and a light source. The exposure time of the patient to the application of the peroxide is 15 to 20 minutes per session to obtain a desirable change of color. It is not recommended to exceed this time [4].

According to some reports, pulpal temperature can increase with bleaching light use, depending on the light source and exposure time. It suggests that use of light may result in light radiation exposure levels approaching or exceeding safety limits. Pulp irritation and tooth sensitivity can be higher with use of bleaching lights or heat application, and caution has been advised with their use [1].

The mechanism of action is based on the release of active form of oxygen, due to interaction of hydrogen peroxide with tooth. Hydrogen peroxide an oxidizing agent is capable of producing free radicals, releases oxygen, reduces the complex carbonic chain of the pigment (absorbs blue spectrum of light), into smaller molecules with free hydroxyls (do not absorb blue light) and so reflect the blue light along with the green and red spectra; this color mixture gives the whitening effect [3].

Result

Pola office was capable of bleaching teeth with colour changes noticeable by the patients. It's cost is reasonable with easy application. Tooth sensitivity was a temporary side effect.

Conclusion

In office tooth bleaching is a powerful and short treatment modality that may notably change the arrival of tooth. For the mild enamel discolorations, in office bleaching is a good and safe desire for dentists when utilized in proper concentration of agent.

Bibliography

1. Leandro Féliz-Matos., *et al.* "Dental Bleaching Techniques; Hydrogen-carbamide Peroxides and Light Sources for Activation, an Update. Mini Review Article". *The Open Dentistry Journal* 8 (2014): 264-268.
2. Mohammed Q Alqahtani. "Tooth-bleaching procedures and their controversial effects: A literature review". *Saudi Dental Journal* 26.2 (2014): 33-46.
3. Sadashiv Gopinath Daokar., *et al.* "In-Office Vital Bleaching Using Pola Office - A Case report" (2020).
4. Niladri Maiti and Utpal Das. "Vital Tooth Bleaching: A Case Report". *The Journal of Dentists* 2.1 (2014): 24-28.
5. Yousef Salem and Yusuf Ismail Osman. "The effect of in-office vital bleaching and patients' perception of the shade change". *SADJ: Journal of the South African Dental Association = Tydskrif Van Die Suid-Afrikaanse Tandheelkundige Vereniging* 66.2 (2011): 72-76.
6. Mon Mon Tin-Oo., *et al.* "Factor influencing patient satisfaction with dental appearance and treatments they desire to improve aesthetics". *BMC Oral Health* 11 (2011): 6.