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Research Article

The Effect of Some Beverages on Color Change of Bleached Teeth

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Abstract

Background: The effect of some beverages on color change of bleached teeth is various and depend on the acidity and ph and the time of the operation and the concentration of the bleaching agents.

Aim of the Study: Effect of coffee, tea to collect the past, cola-based soft drink (CBSD)t ten years papers which evaluate the on teeth after bleaching.

Methodology: Data was collected from published articles in the last ten years. This was include papers published in PubMed and Google scholar index.

Conclusion: The exposure to coffee after bleaching does not change color than the exposure to a CBSD

Keywords: *Teeth Bleaching; Stains; Coffee; Cola-Based Soft Drinks*

Summary

This review shows the effects of staining on color changing after bleaching in past ten years.

Introduction

The smile is the best way to give people a beautiful appearance through the dentistry aim that concerned to make distinctive smile, and to create a pleasing for patient through arrangement in harmony [1].

Patients and consumers now demand not only a healthy mouth but also an ideal smile [1] and this increased the demand of popular cosmetic procedures, somehow people got effected strongly by the action of social media and by the many commercial of aesthetics outputs.

Indeed, it has been reported in the UK that 28% of adults are uncomfortable with the appearance of their smile and in the USA that 34% of an adult population are not satisfied with their teeth colour [1].

The ultimate objective of aesthetics in dentistry is to create a beautiful smile, with teeth of pleasing inherent proportions to one another, some of the most common challenges to dentist is how to work with bleaching systems without do harm on patients which make

it a difficult way to choose the best bleaching material, as manufacturers continue to provide new products that purport to be the best to others nowadays on the market [2].

The American Dental Association (ADA) has a special standard for the Seal of Acceptance program with dentist-prescribed at-home and in-office and over the counter products unless this products are safe and effect [2].

Many of methods can help to remove staining like specific cleaning by scaling and polishing for minor stains, internal and external bleaching and obviously enamel abrasion, the low cost and fast action of the whitening procedure made it a widespread between people and highly recommended by others [3].

Aim of the Study

The aim of study is to collect the past ten years papers which evaluate the effect of coffee, tea, cola-based soft drink (CBSD) on teeth after bleaching and see the different aspects from benefits and drawbacks of bleaching teeth procedure.

Materials and Methods

Data was collected from published articles in the last ten years. This was including papers published in PubMed and google scholar index.

Summary of bleaching techniques

White and Well-arranged teeth became a relevant to the population. Of course because of the media, people are obsessed of models looks and wants to be ideal in everything and searching undoubtedly for the "ideal smile" by the professionals [5].

With the help of extrinsic and intrinsic agents the teeth color can be modified. The extrinsic stains like the stains of caffeine or some of medications can be removed easily by using some medications. Meanwhile the intrinsic stains can be congenital, for examples dentinogenesis imperfecta and amelogenesis imperfecta, or can be acquired like pulp necrosis and fluorosis [5].

In the past they used sulfur dioxide and Labarraque liqueur (2.5% sodium hypochlorite) as a bleaching agents. Nowadays they added 30% hydrogen peroxide with heat in external bleaching, and for the internal bleaching they use sodium perborate with hydrogen peroxide 30%.

There are different whitening techniques in the sources and references, like using carbamide peroxide and hydrogen peroxide in different concentrations.

Moreover, the diversity of the bleaching materials or light sources such as allogeneic, laser, LED and ultraviolet which can be used to increase the bleaching action [5].

Dentin permeability and dental sensitivity are a side effect of bleaching especially when the temperature is very high. You can reduce the sensitivity by reducing the heat. This is why the bleaching techniques should be improve. The most prevalent side effect of teeth whitening is sensitivity [5].

Result

Ten studies where selected to find that there is a differences observed between groups for both the ΔL and ΔE values. Where color = (ΔE) lightness = (ΔL) All specimens presented a decrease in brightness after bleaching.

The highest ΔE values are teeth which stained with a CBSD (Cola-based soft drinks) after bleaching.

Teeth stained with caffeine have ΔE values less than CBSD after bleaching [6].

Teeth pigmented with caffeine after bleaching causes less color changes than the pigmented with CBSD regardless of the time after bleaching.

Dental erosion is a common problem in modern Communities, because of high exhaustion of soft drinks, the chronic regular consumption of low pH cola drinks encouraged the erosion of the teeth. The sensitivity and change of tooth structure are a main results of soft drinks. This can exacerbate the loss of crystal and nano-morphology of the enamel [7].

The method of coffee causing tooth erosion is indistinct due to the scarce researches that tested the action of coffee on the teeth structure [8].

The caffeine did not have an effect on the bleaching procedure during or after the treatment time [9].

Signs of CBSD erosion

Lustrous concavities on enamel, glazed appearance, severe, painful sensitivity, buccal concavities in mandibular premolars and molars, cupping at the free gingival margin, cracks and chips, sealants on the occlusal surface, tender and translucency upper, surface characteristics lost, missing of details in the milk teeth.

Discussion

There are several methods for evaluating tooth shade changes after bleaching or after immersion in coloring solutions. Subjective methods, such as using a conventional tooth shade guide and objective methods, such as using spectrophotometers, are both used.

Tooth stains are caused by a variety of meals and beverages, some of which contain acidic solutions, while others contain ethanol and colors. Tooth discoloration is caused by a number of circumstances, including: for example, the staining solution's pH value.

Cola had the lowest pH in these studies and may have harmed the surface of the teeth after bleaching.

There are no statistical differences between the coffee and control groups at any point following bleaching, according to the study. There are no stains on these teeth in the control group.

Otherwise and based on SEM observation, with respect to increase concentrations and time not increase tooth whitening and the color changes from the coffee is less according to CBSD regardless of the time after bleaching [10].

The chemical composition of acidic beverages has a substantial impact on the mineral structure of enamel and, as a result, on its mechanical characteristics. The acidity of carbonated cola drinks is mostly due to phosphoric acid, according to the report.

Previous studies have shown that beverages containing citric acid induce more enamel erosion than drinks containing simply phosphoric acid, such as coca cola.

The physical qualities of human enamel, including as the elasticity module, hardness, and surface roughness, are all affected by pH, the aqueous environment around the enamel, and temperature [11].

The effectiveness of bleaching treatment is not depending on the color of bleached teeth before the operation (the stains), it is the concentration of the bleaching solution and the time.

Coffee or tea drinking during teeth bleaching may not affect the color change generated by the therapy [12].

However, clinicians should counsel their patients to avoid drinking coffee following the bleaching operation, at least to some amount, in order to maintain the treatment's effectiveness.

In other hand and to take close view, studies approved that After vital bleaching, the enamel staining susceptibility significantly increased [13].

It is critical for the treating dentist to discuss the benefits and cons of all possible choices prior to undergoing any cosmetic dental operations. What the treatment's expected repercussions and limitations would be, and what the potential failures will entail later in the patient's life Informed consent should be sought (ideally in writing), and clinical notes and records should be carefully recorded, with accurate and succinct descriptions of all investigations conducted and their findings, as well as specifics of the different discussions held [14].

The dental bleaching procedure entails applying a bleaching gel to the tooth surface for an extended length of time, which can have negative consequences on the teeth:

Which it's a drawbacks of bleaching teeth procedure such as:

1. Sensitivity due to increased enamel porosity (which allows the bleaching gel to diffuse into the dentin);
2. Gum diseases (gingivitis).
3. Irritation of the throat and stomach.
4. A rise in the micro hardness of enamel and a decrease in its surface roughness [15].

Conclusion

The surface treatments (2 percent neutral sodium fluoride, CPP-ACPF, PVP-containing rinse, and polishing with feltrum disks impregnated with aluminium oxide) were found to be identical to artificial saliva and had no effect on the maintenance of bleached enamel color. The color of bleached enamel was unaffected by immediate or 1-hour delayed coffee contact [16].

Bleaching teeth with carbamide peroxide does not increase the sensitivity of enamel to staining and does not change the topography of the enamel, according to SEM observations. The use of higher bleaching concentrations did not result in increased teeth whitening over time [17].

When exposed to coffee after bleaching, color changes are fewer than when exposed to a CBSD, regardless of the time after bleaching [18].

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