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Short Communication

Tooth Discoloration: The Challenging Task

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Abstract

Tooth discoloration is a frequent dental finding, associated with clinical and esthetic problems. It differs in etiology, appearance, composition, location, severity, and firmness in adherence to the tooth surface. Basically, there are two types of tooth discolorations: those caused by extrinsic factors and those caused by intrinsic congenital or systemic influence. Tooth staining presents two major challenges to the dental team. The first challenge is to determine the cause of the stain; the second is its treatment. In the management of patients with stained teeth it is very important to know and understand the mechanisms behind tooth discolorations as well as the clinical features of different types of tooth staining, in order to make a correct diagnosis. In this short communication, we focused on some aspects of tooth discoloration. Treatment options were, also, briefly discussed.

Keywords: *Aesthetics; Tooth discoloration; Prosthetic approach; Dental fluorosis; Devitalized teeth*

Recently, the appearance of the dentition is of concern to a large number of people seeking for dental treatment which makes the color of the teeth of particular cosmetic importance. For that, tooth discoloration remains a challenging task and a subject of concern regarding the modalities of treatment can be improved by a number of approaches including bleaching procedures, ceramic veneers and full coverage restorations [1,2].

In some instances, the mechanism of staining may have an effect on the outcome of treatment and influence the treatment options. Therefore, examining a discolored dentition requires knowledge of its etiology is of importance to dental surgeons in order to enable a correct diagnosis. It allows the dental practitioner to explain to the patient the exact nature of the condition and choose the correct modality of treatment. It should be based on the localization, the degree and the etiology of the discoloration which can be defined as being extrinsic or intrinsic [3-5]. Tooth discoloration has many causes including tetracycline consumption during the development of deciduous teeth, dental fluorosis and endodontic treatment. In the same context, it can be developed after applying a triple antibiotic mixture (ciprofloxacin, metronidazole, and minocycline) which is used as an intracanal medicament in an attempt to disinfect the root canal system [6-11].

Dental fluorosis is one of the most popular endemy involved in teeth discoloration compromising the beauty of the smile. Its clinical manifestations vary from enamel changes seen as white flecks to moderate and severe tooth surface changes seen as pitting and mottling areas, with or without brown to black staining. To evaluate its degree, establishing characterizing score, and other extensive carious lesions and endodontic treatment, are essential parameters to decide about the suitable treatment approach. Depending on these factors, the clinician has to choose between a full crown, veneers or bleaching [6-8].

When discoloration comes from necrotic pulp tissue, it becomes difficult to achieve satisfactory esthetic improvement using non invasive techniques.

In fact, it has been proved by authors that depending on the degree of discoloration, when the underlying tooth color has a dark shade (between A5 and C10) full coverage restorations is considered as an attractive treatment approach and the core of the material chosen should be opacious. In the same context, devitalized teeth have high fracture risk aggravated by endodontic procedures responsible for a loss of structure. In this situation, full coverage restorations are preferred since several studies showed that adequate coronal coverage following endodontic treatment resulted in decrease of tooth loss. Whereas, thin ceramic veneers, is not the suitable approach because they are made from translucent ceramics such as silica glass based all ceramics. In such cases, we need an opaque material that can mask this discoloration. This justifies the use of Zirconia single restorations which offers excellent results in terms of esthetics and biocompatibility. Recently, Zirconia based ceramics has been considered as the most suitable material to be used when covering devitalized teeth as it is white in color and more opaque than other dental ceramics because of its high refractive index [12-14].

Conclusion

Faced on tooth staining, understanding of the mechanisms is of relevance to the general dental practitioner. In the management of patients with tooth discoloration such information is valuable in the decision-making process when considering whether to treat or to refer to, or refer on to a specialist for an opinion or for treatment.

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