

TETRACYCLINE STAINING: A CASE REPORT

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ABSTRACT

Tetracycline has been as an antibiotic since the 1950s. One of its adverse effects is teeth discoloration. Restorative treatments could be performed to improve the esthetic of the patient. These include external bleaching, veneer, and crown restorations. In this case report, veneer restoration was performed with minimal preparation to improve the esthetic.

Keywords: Tetracycline, Teeth discoloration, Restorative, Veneer.

INTRODUCTION

Tetracyclines were discovered initially as natural products in the late 1940s by Benjamin Minge Duggarand. Its therapeutic use began in the 1950s as a broad-spectrum antibiotic, with activity against both Gram-positive and Gram-negative bacteria including intracellular chlamydiae, mycoplasmas, and rickettsiae [1]. In addition to use in humans and animals, tetracyclines have also been used in plant agriculture [2].

The use of tetracycline has been associated with significant adverse effects, such as teeth discoloration. This can be a tremendous esthetic concern to patients as it can contribute as a source of embarrassment, leading to reduced self-esteem [3]. Tetracycline teeth discoloration may occur as a result of childhood exposure, or when administered to pregnant women after 14-16 weeks of gestation [4]. Teeth discoloration was also manifested in 50% of infants exposed to tetracycline in utero [5]. Sometimes in addition to the discoloration of teeth, there is an associated enamel hypoplasia.

Teeth discoloration caused by tetracycline staining is challenging to treat, as it usually involved all maxillary and mandibular teeth. Furthermore, it is classified as intrinsic staining. It produced unsatisfactory esthetic to patients.

CASE REPORT

A 35-year-old woman presented with black and brown band on all of her maxillary and mandibular teeth, and very concern about her esthetics. The band extended form gingival third to incisal edge of the teeth. External bleaching has been attempted but unsuccessful. The patient was given option for veneer restoration of her anterior maxillary and mandibular teeth. Consent was obtained from the treated patient.

The primary impression was casted and diagnostic wax-up was constructed. Teeth were made longer in the wax-up to give more incisal show on smiling (Fig. 1). Minimal veneer preparation was done on the anterior teeth, leaving interproximal contacts intact. Incisal reduction was minimally done (Fig. 2). No provisional restorations were fabricated as preparation only involving enamel surfaces. Veneer restorations were fabricated. Try-in was done, and adjustments were made to patient's liking. All veneers were cemented with resin cement (Figs. 3a-c).

DISCUSSION

Veneer is a thin shell of porcelain or composite type of restoration that would improve the appearance of the teeth by changing the shape, size, color, and alignment of the teeth. The restoration has been practiced since the 1930s [6]. It has the advantage of minimally prepared the teeth involved compared to full crown. Veneer can be done on a single tooth, or multiple teeth. Cementation can further improve the esthetics as the cement comes in many colors to match the shade desired.



Fig. 1: Diagnostic wax-up of maxillary and mandibular anterior teeth mounted on articulator



Fig. 2: Veneer preparation of maxillary and mandibular anterior teeth



Fig. 3: (a-c) Veneer restorations for maxillary anterior teeth, veneer restorations for mandibular anterior teeth, veneer restorations on occlusion

The main downside of veneer is they are easily chipped off or fractured [7]. This is due to the minimal thickness of the veneer, together with the brittle nature of the porcelain. Another disadvantage is it could dislodge from the tooth. This could be due to the failure of the cement used, either

inappropriate type of cement or incorrect technique during cementation being applied. Staining of the veneer is very uncommon especially if its porcelain veneer. However, with a correct technique of cementation - silane coupling agent, etch, and bond, the incidence can be minimized.

CONCLUSION

Veneer restoration is one of the options to manage tetracycline staining cases that could lead to a promising result. Minimal preparation is feasible to address esthetic concern.

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