

How Long Is The Longevity Of My Restoration?

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ABSTRACT

Direct composite resin restoration of the patient with aesthetic problems in anterior teeth has been told. However, the patient's concerns that may occur after treatment have been handled. Different composite and restorative materials are used routinely in clinical practice. In particular, the restorations in the anterior region may cause the patients to worry. Many questions like those; "What is my restoration longevity? Can I use my front teeth as easily as my old ones?, May any coloration occur in recently done restorations?" are often asked by patients. In this case report, the direct composite resin restoration of the patient with aesthetic problems in anterior teeth has been told. However, the patient's concerns that may occur after treatment have been handled.

Keywords: Composite Resin, Longevity, Aesthetic.

INTRODUCTION

Direct restorations are widely used owing to their low cost, capability of being restored without removing tissue from the tooth surface or with very little tissue removed and their clinical acceptability [1-4].

To estimate the lifespan of composite restorations, it is required to define the reasons of failure and determine the source of the failure [5].

It is not easy to estimate the longevity of different restorative materials, because their longevity depends upon many factors. The choice of material is one of them.

The study design, cavity shape, clinicians experience, non-standardized cavity criteria, study cohort take place in the other factors. [6].

However, studies have shown that amalgam restorations are long lasting than other restorative materials [7,8].

In studies annual failure rates of different composite materials are indicated as: It is mostly observed in glass ionomer cement and in amalgam at least.

The resin matrix composites with 2.3% failure rate has been found to have the least failure rate after amalgam [9].

According to Norwegian Kvit Project, compomers have been determined to be 95 % intact in the mouth, amalgam restorations have been determined to be 92 % intact in the mouth, composite restorations have been found to be 85 % intact in the mouth, glass ionomer

cements have been found to be 69 % intact in the mouth [10].

CASE REPORT

In this case report, a high school student consulted to Inonu University, Faculty of Dentistry, Department of Restorative Dentistry because of aesthetic discomfort in the upper central teeth. After the taken anamnesis, the patient was found not to have any kind of systemic disease.

In clinical examination, it was determined that the incisal edges of upper central teeth were broken, the patient had no lateral teeth and also diastema was found between canine teeth and central teeth. (**Figure 1**).

After evaluating the patient's, direct composite restorations which is able to meet aesthetic expectations was decided to be applied. 35% phosphoric acid gel (Scotchbond Multi-Purpose Etchant; ESPE, USA) was applied to all enamel surfaces for 30 seconds, it was washed with water spray for 15 seconds and then was dried by squeezing mild weather. The prepared binding agent (CLEARFIL SE Bond Kuraray, Japan) was applied to all enamel surfaces and was polymerized by light for ten seconds. The previously selected colors were respectively applied in layers and each layer was polymerized by light for 40 seconds. Finally, finishing and polishing process was completed using disc-type

sanders (Sof-Lex, 3M ESPE, USA) and composite polishers (Flexi-Snap KIT, EDENTA, Switzerland) in series. The treatment met all aesthetic, functional and

economic expectations of the patient (*Figure 1*). The patient was given oral hygiene education required to comply.

Figure 1: A-G: The clinical image from a different angle; H-I: The post-treatment clinic image of patient; J: The transformation of canine teeth into lateral teeth, K: The image of patient 6 months after treatment.

DISCUSSION



RESULTS

Accurate assessment of the lifespan of the materials is not possible. many factors affect the longevity of materials in the mouth. with developing technology and science, new restorative materials are improved with each passing day. on the other hand, properties of the materials used are being improved so that they can be kept in mouth for a long time. one of the most important issues in these kind of cases is to follow the patients clinically. after treatment, patients should be followed in certain periods: for example, in the first month and third month; first year or third year just after the treatment.

The proper finishing and polishing operations after the restoration are among the critical phases that increases the longevity and aesthetic of composite restorations. In rough restoration with no finishing and polishing procedures applied, surface plaque retention may cause long-term secondary caries formation, surface discoloration and inflammation in environment and soft tissue [11]. When the longevity of restorations in mouth was examined in the studies done, it was found to be 2 or 9 years for composite fillings [12]. A number of factors plays a role in the lifetime of the materials that is a continuous concern of patients. These can be categorised as the patient-related factors (oral hygiene, excessive tea, coffee use, smoking etc.); physician-related factors (pay attention to the rules of preparation and restoration, do

polishing and finishing carefully etc.); materials-related factors. After the aesthetic restoration of anterior regions, the patient shouldn't eat hard foods with the front teeth and should chew the nutrients with the back teeth by cutting them into small pieces. An excellent isolation during restoration is very important. But, if the periodontal health is not in a good condition or if the tissues were given harm during the preparation of restoration surface, no matter how much precaution you take for the isolation of the region, the bleeding tissues can create a negative effect on connection. Forces, chemical stimulants can cause bleeding, as well. This will not only lead to micro leakage which affects connection, it will also cause decaying and color changing [13]. Wilder *et al.*, achieved a success as high as 76 % in composite resins restored by ultraviolet light source as a result of 17-year-work. They reported that the failure occurred within the first 5 years [14].

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