

Diastema and aesthetic rehabilitation of anterior teeth

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Abstract: Diastema is the space between the teeth and is the anomaly characterized with lack of contact surface between the teeth. They can be localized or be enough to cover the entire arc as well as they can be found in posterior or anterior. In this case report, the radiographic evaluation of the patient concerned about the aesthetic problems in the anterior region and restoration of patients with composite veneer after the diagnosis were discussed.

Keywords: Aesthetic, Diastema, composite veneer

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I. Introduction

Diastema is considered to be the item of a normal occlusion in one third of the population in the permanent dentition. According to an epidemiological study, it was pointed out that there were spaces in both arches of jaw in 21.4 % of the population (1)].

The most common type of diastema according to the studies is the diastema seen among maxillary and central teeth. If the space between the two central teeth is measured to be more than 2 mm, this is called as midline diastema (2).

II. Case Report

The patient suffering from the gaps between anterior teeth applied to our clinic for being unpleasant of his aesthetic appearance. The gaps between the teeth of patient were filled with composite bonding method and were restored and appearance was improved (Figure 1). Materials used in the study was also shown in the table 1.

III. Discussion

The reason of the diastema may be hereditary, acquired or functional. Among hereditary causes can inconsistency of tooth size-arc size, congenital missing teeth, macroglossia, supernumerary teeth, small teeth and hypertrophic upper lip frenulum be counted. Among pathological causes acquired can harmful oral habits due to functional reasons, missing teeth, delayed tooth eruption and gingival disease be counted (1).

Flexibility in composite restorations is a feature that is very desirable. Physical limitations include tooth position and its relations with neighboring teeth. The part where the teeth come out of gingiva can not be changed without orthodontic treatment. Composite restorations can not change the position of the dental roots, but can provide contouring. Consequently, tooth width and position is limited. Height and width ratio of the teeth is defined according to the golden ratio(3).

Restorations deviating much from this rate will not appear aesthetic (3). Excessive forces on the teeth can cause breakage by making a negative impact on composites. Especially, if the restored regions are expose to direct forces, then fractures occur. Another disadvantage of the composite is that it is discolored over time and it needs to be retouched. Composite restorations should be treated again in 7-10 years (4).

IV. Conclusion

A comprehensive analysis and planning takes place among the main factors to be considered in the treatment performed. Patient's age, socioeconomic status, diastema's position and context, the state of the teeth and gingival tissue, diastema length and the present occlusion are the factors to be considered on. When care about all these factors, restorations remaining in the mouth for a long time can be obtained without being discolored.



Fig. 1. Pre-treatment and post-treatment images of the patient’s teeth

| | Material Name | Manufacturer | Material type | Matrix type | Filler content | Filler ratio % |
|---|------------------------|------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------|----------------|
| 1 | Estelite® Stigma Quick | Tokuyama Tokyo, Japan | Submicron filled composite resin | Bis-GMA, TEGDMA | Spherical silica-zirconia filler and silica-zirconia prepolymerized fillers | 82 |
| 2 | Estelite® Flow Quick | Tokuyama Tokyo, Japan | Low viscosity, medium flow, light cured, radiopaque composite resin | Bisphenol A polyethoxy Methacrylate (Bis-MPEPP), TEGDMA, UDMA | Silica- zirconia filler and silica-titania filler | 71 |
| 3 | Tokuyama Bond Force | Tokuyama Dental, Japan | 3D-SR monomer, TEGDMA, BisGMA, HEMA, Glass fillers, Isopropyl alcohol, Photo-initiator, Water | - | - | - |

Tab. 1: Materials used in this study

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