

The staining effect of chlorhexidine mouthwash on non metallic brackets

(An in vitro comparative study)

A thesis submitted

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Abstract

Since it is needed to have means other than mechanical plaque control to achieve good oral hygiene in orthodontic patients, and since an eliminating the metallic appearance of orthodontic appliance is always desired to achieve a maximum esthetic appliance, this study was done to investigate and compare the staining effects of chlorhexidine mouthwash 0.2% on the un bonded ceramic brackets, ceramic brackets bonded with no mix adhesive, ceramic brackets bonded with light cured adhesive, un bonded composite brackets, composite brackets bonded with no mix adhesive and composite brackets bonded with light cured adhesive.

The effect of the chlorhexidine was studied through immersion the brackets and bonded brackets in the mouth wash for three different time intervals: 1, 2 and 3 hours, which represent the accumulated daily use of the mouthwash for 1, 2, and 3 months respectively and compared them with corresponding control groups which not immersed in chlorhexidine 0.2%.

The sample consisted of two hundred eighty eight brackets. A Shimadzu, UV 160A UV-Visible spectrophotometer was used to perform a light absorption test for each subgroup with twelve brackets each.

ANOVA and LSD post Hoc tests were used to identify the significant effects of the mouthwash at a significance level $P \leq 0.05$, A significant effects identified with ceramic brackets bonded with no mix adhesive, ceramic brackets bonded with light cured adhesive, un bonded composite brackets, composite brackets bonded with no mix adhesive and composite brackets bonded with light cured adhesive, while non significant effect of un bonded ceramic brackets.

It can be concluded that the chlorhexidine mouthwash do not have a staining effect on the un bonded ceramic brackets while significant changes in staining effect when ceramic and composite brackets bonded to no mix adhesives and that effect decrease when bonded to light cured adhesives. The mouthwash has a staining effect on the un bonded composite brackets also.