

Effect Of Composite Resin, Compomer And Reinforced Glass Ionomer On Morphology Distribution Of Dental Plaque Colonies

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The purpose of this study was to evaluate the effect of composite resin (VLC composite), compomer (Dyract) and resin reinforced glass ionomer (Fuji II L.C) on the morphology distribution of plaque colonies. Forty five patients were studied during various phases. The three restorative materials were used for class V fillings in molars and premolars. Cavities preparation and restorative techniques were carefully standardized. Fifteen fillings of each type of restorations were done in the selected cases. The patients were asked not to brush their teeth or used any mouth wash and not to chew gum 48 hours before collection of plaque samples. The bacteriological tests were performed 7 days and after 6 months postoperatively. Bacterial plaques were identified on the basis of colony morphology and gram stain. The results showed same activities of gram positive bacilli collected from the gingival margins of restorations of control surfaces. While, those obtained from reinforced glass ionomer Fuji II L.C. shows less activity. The gram positive bacilli showed 12% of the bacterial plaque sample on the filling surfaces when compared with control group 22%. The maximum activity of gram negative mutans was occurred on the surface of the composite resin restorations. The rods activity showed nearly stable behaviors for all restorations. Gram positive and negative filamentous mutans showed stable equilibrium for compomer restorations. All types of restorations showed bacterial filamentous growth for the studied periods.

Cariostatic activity in tooth colored restorations has been desirable characteristic for the entire history of modern dentistry. Silicate cement, used in the past, was a known cariostatic material. It has been well established that fluoride contained in silicate cement is leached from restoration and reacts with tooth apatite to form a complex that is more resistant to acid attack⁽¹⁾.

In recent years, However, composite resin, the most popular tooth-colored restorative material, has lacked cariostatic activity. In fact, because of

the negative expansion-contraction characteristics of composite resins⁽²⁾, restorations may even have stimulated dental caries activity. Traditional fluoride-releasing glass ionomer has been used minimally as a restorative material⁽³⁾. Currently, two widely tooth colored restorative materials, compomer and resin reinforced glass ionomer, provide proven fluoride release at different levels and potential for cariostatic activity⁽⁴⁾.

The role of bacteria in the initiation of dental caries has received consider-