

**The effect of different oral hygiene regimens on the  
quantity of cariogenic plaque on orthodontic bands  
with different attachments  
(a clinical photographic study)**

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## **Abstract**

Fixed or removable orthodontic appliances impede the maintenance of oral hygiene and result in plaque accumulation leads to enamel demineralization caused by organic acids produced by bacteria.

This clinical photographic study was accomplished to estimate the amount of cariogenic plaque associated with different attachments on orthodontic bands and compare these amounts among orthodontic patients pursuing different oral hygiene regimens.

Twenty orthodontic patients participated in this study, each patient had four bands within the orthodontic appliance. These patients were randomly divided into four groups of hygiene regimens where group A used chlorhexidine dentifrice, group B used fluoridated dentifrice, group C used chlorhexidine mouthwash along with chlorhexidine dentifrice and group D used chlorhexidine mouthwash in addition to the flouride dentifrice.

Bands were removed four weeks after the appliance been in place, cut out carefully into 2 pieces from the center of the mesial and distal contact areas, biochemical test (clinpro cario L-pop) was applied then 80 digital photographs were obtained. Four areas of interest were estimated which are mesially and distally to each attachment (2 mm) in width each. Percentage of plaque in these areas was calculated and statistically analyzed.

As a result, evaluation of side difference revealed that the plaque accumulated on the right sided bands more than the left, however the difference was not significant. It was also found that the lower bands had insignificantly higher amount of plaque than the upper ones.

Concluding that the four groups of oral hygiene regimens have no significant different effects on the plaque amount. Moreover, the oral hygiene maintenance is more

difficult in the right side than the left side but the difference was not significant. The lower arch accumulated insignificantly more plaque than the upper. Also, difference in attachments has no influence on plaque amount.