

Comparison of Bacterial Proportion in Patients Consuming Nicotine and Patients not Consuming Nicotine in Oral Cavity

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ABSTRACT

Aim: The aim of the study was to compare the bacterial proportion in patients consuming nicotine and patients not consuming nicotine in respect to the oral cavity.

Materials and Methods: The salivary samples of 20 patient consuming nicotine products such as bede, cigarettes etc and patients not consuming any nicotine products were added in the study as control group. Samples were collected only from male patients above 25 years of age. Samples were collected in sterile disposable containers and diluted in sterile saline in the ratio of 1:40 dilution (50 micro liters of saliva was diluted in 2 ml of saline), inoculated and incubated for 24 hrs. The total count as well as the S.mutans count were evaluated.

Results: The study showed reduction in the s. mutans proportion in the patients consuming nicotine products as the nicotine substitute present inhibits the growth of the gram positive organisms. The total count showed a increase in the proportion in nicotine consuming patient.

KEYWORDS: Nicotine, Bacterial proportion, S. Mutans.

INTRODUCTION

The oral cavity consists of a number of microbial flora. These microbial flora play a major role in causing diseases like dental caries, gingivitis, periodontitis etc. The saliva that is present in the oral cavity acts as a medium for the bacterial flora. Proper maintenance of the oral hygiene helps in preventing the bacterial action involved in causing diseases. The common flora present includes gram positive cocci and rods and gram negative cocci and rods and also anaerobic species.

Gram positive cocci: Streptococcus,

Preptostreptococcus, Abiotrophia.

Gram positive rods: Actinomyces, Corny bacterium, Eubacterium, Lactobacillus.

Gram negative cocci: Moraxella, Neisseria.

Gram negative rods: Campylobacter, Capnocytophaga, Prevotella, Treponema, Hemophilus.

MATERIALS AND METHODS

The salivary samples in the study group of 20 patient consuming nicotine products such as bede, cigarettes etc and 20 patients as control group not in the habit of consuming any nicotine products were collected. Samples were collected only from male patients above

25 years of age. Samples were collected in sterile disposable containers and diluted in sterile saline in the ratio of 1:40 dilution. 50 micro liters of saliva was diluted in 2 ml of saline, inoculated and incubated for 24 hrs. The total count as well as the s.mutans count were evaluated.

RESULTS

Table 1: Showing the mean value of mutans and total count in the salivary samples

	Strept. Mutans count	Total count
Patients consuming nicotine	99,200	31,75,760
Patients not consuming nicotine	5,98,000	32,54,429

DISCUSSION

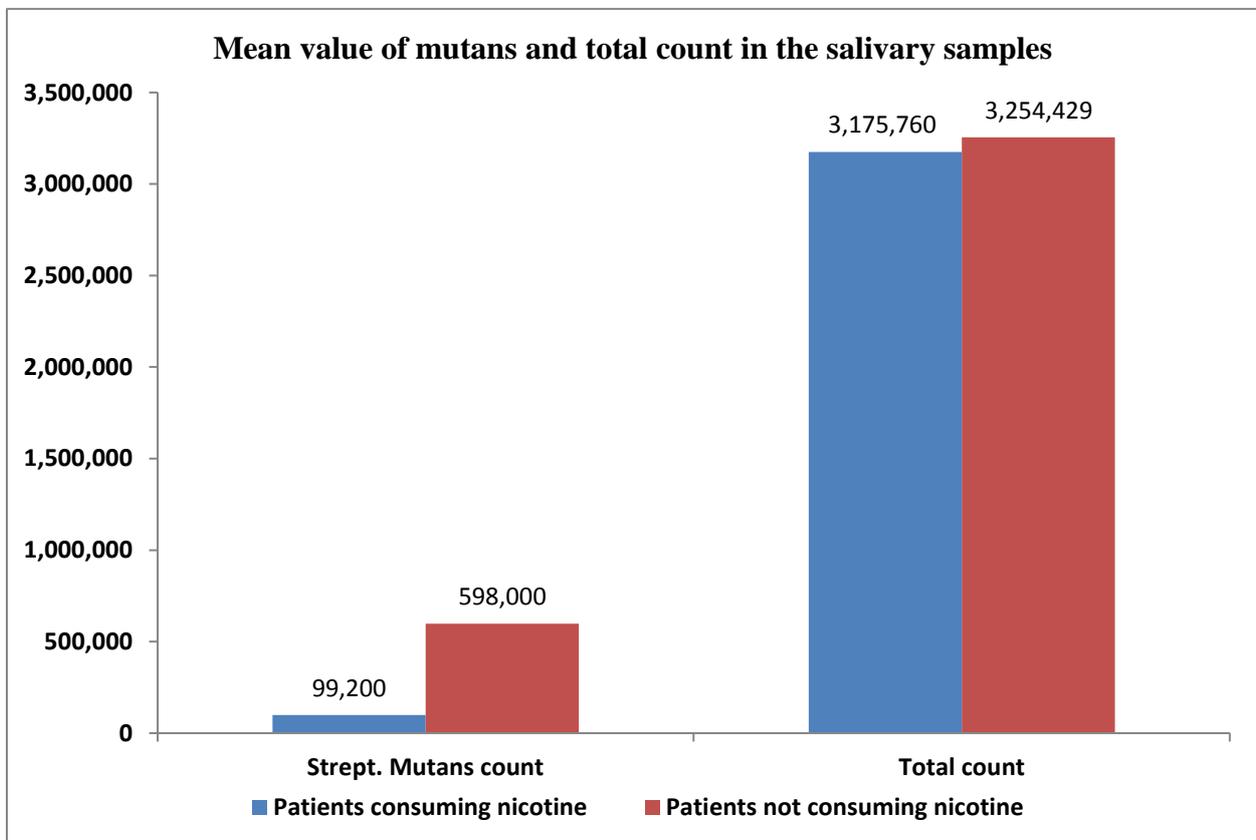
In this study, when compared with patients consuming and not consuming nicotine, the mean value of mutans shows patients consuming nicotine has marked reduction in the mean value at the level of 99200. Whereas in patient who don't consume in any form the mean value

of frequencies is 5,98,000. It is already proved that nicotine has specific inhibitory effect on Strept. Mutans. When evaluated the total count in these two groups there is no significant difference between the 2 groups of patients, there is a marginal increase in the patient who don't consume tobacco. This again reflects the impact on Strept. Mutans with nicotine.

Nicotine consumption cannot be considered as a predisposing factor for cardio genic activity but nicotine has an adverse effect on the mucosal health of oral

tissue. This will impair the local immunity and also the physiology so mouth. It alters the cellular parameters, physical parameters and chemical parameters. Apart from all these effects nicotine is having an anti-microbial activity against certain species.

So in this study, it is evident that there is no significant decrease in total bacterial load when compared with non-consumers. But it is also seen that the portion of Strept. Mutans is markedly reduced without altering the total bacterial count of saliva significantly.



CONCLUSION

The addiction to nicotine is life threatening that causes severe destruction of the oral mucosa. It stands to be as a risk factor for the cause of periodontal diseases, gingivitis, and mobility leading to tooth loss, implant failure, pre malignant lesions followed by oral cancer. Though nicotine has the property of inhibiting the growth of mutans in the saliva that is most involved in caries activity, it's activity is not correlated to the cariogenic activity.

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