

Study of Relationship of Anemia among Edentulous Patients

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ABSTRACT

Very little studies were done on relationship of the dental status and the nutritional status. The present study was done to study relation between edentulism and the presence of anemia. The study was included of 46 adult patients with edentulism and same numbers of patients were taken as controls. The results were tabulated and analyzed with the help of IBM SPSS statistics 20 using student's t test. The hemoglobin levels were lower in the edentulous patients that that of the control group. The present study had shown that the nutritional status were poor resulting in anemia in case of edentulous patients as compared to control group with the same age group.

Key words: Edentulism, Tooth loss, Nutritional status

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INTRODUCTION

Edentulism is a debilitating and irreversible condition and is described as the "Final marker of disease burden for oral health". Although the prevalence of complete tooth loss has declined over the last decade, edentulism remains a major disease worldwide, especially among older adults (Emami et al., 2013).

The edentulism has its direct or indirect impact in relation to education, economic circumstances, lifestyle, oral health knowledge and beliefs, and attitudes to dental care (Nowjack-Raymer and Sheiham, 2003). Poor oral health has been shown to have a negative effect on peoples overall health and quality of Life, affecting the mastication, dietary intake and nutritional status (Hamdan and Fahmy, 2014).

The present study was done to evaluate the status of anemia in completely edentulous patients.

MATERIALS AND METHODS

The study was done inclusive of 46 edentulous patients. The study was done after ethical committee approval and after obtaining written consent from all the participants. The same number of patients with the similar age group and sex was taken as control having all of their teeth present. The edentulous patients were belonging to the age group of 45 to 60 years and out of 46 patients, 24 were male patients, while 22 were female patients.

Criteria for anemia: Hb < 12 gm% for adolescent (ICMR Bulletin, 1997).

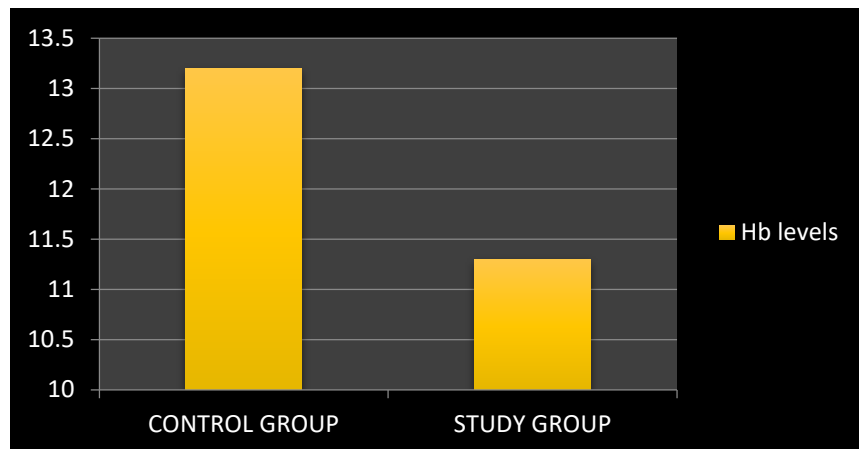
Statistical analysis: The results were tabulated and analyzed with the help of IBM SPSS statistics 20 using student's t test.

RESULTS

The difference between the hemoglobin levels of the control group and the patients with edentulous state had shown that the hemoglobin levels were higher in the control group and the difference was found to be statistically significant (student's t test, $p < 0.05$).

Table 1: The comparison of the Hb levels of the control group and the patients with edentulism

Group	Number of patients (n)	Hb levels (Mean \pm SD)	T value	P value	Statistical significance
Control group	46	13.2 \pm 1.75gm%	2.4152	0.0266	<0.05
Study group	46	11.3 \pm 1.77 gm%			

Graph 1: The comparison of the Hb levels of the control group and the patients with edentulism

DISCUSSION

Edentulism is defined as the loss of all permanent teeth and is the terminal outcome of a multifactorial process involving biologic processes (caries, periodontal disease, pulpal pathology, trauma, oral cancer) as well as non-biologic factors related to dental procedures (access to care, patient's preferences, treatment options etc.) (Hamdan and Fahmy, 2014). Although not life threatening, the complete loss of all teeth, or edentulism, has significant impact on an individual (Hewlett et al., 2015).

Several factors of great relevance to the dentistry area, which may interfere in the intake and selection of foods, are the loss of teeth, use of unsatisfactory dentures, aging and the social-economic-cultural question (Carvalho de Oliveira et al.).

Several studies have shown that edentate elderly consume fewer fruit and vegetables; less dietary fiber, carotene, calcium, and protein; and more cholesterol and saturated fat than do their dentate counterparts. Furthermore, these alterations in dietary intake have been suspected to increase the risk of significant weight loss and possibly of selected systemic diseases such as cancer and cardiovascular disease (Lee et al., 2004).

If we accept that people with significant tooth loss eat fewer fresh fruits, vegetables and meats than fully dentate people, we must next question whether this difference in diet places edentulous individuals at higher risk of malnutrition (Hutton et al., 2002).

In the present study we found that the hemoglobin levels were lower in the edentulous patients than that of the control group. Study by Nowjack-Raymer and Sheiham (2003) has shown that intakes of some nutrient-rich foods and beta carotene, folate, and vitamin C serum levels were significantly lower in denture-wearers.

Extensive tooth loss reduces masticatory performance and affects the choice of food of an individual. Hence edentulous people tend to avoid dietary fiber and often prefer soft foods rich in saturated fats and cholesterol. Thus edentulism is considered to be an indicator of oral health of a person (Nayar et al., 2013).

CONCLUSION

The present study had shown that there is relation between the edentulism and the nutritional status. The present study results should be validated by doing the present study on large scale.

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