

Estimation of serum iron and serum copper in oral pre-cancer, cancer and normal individuals- A comparative study

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Introduction: Oral cancer is one of the ten most common cancers in the world and shows a marked geographic difference in occurrence. In the long incubation period between the initiation of carcinogenic habits and development of invasive oral cancer, several well defined oral precancerous lesions such as leukoplakia, oral submucous fibrosis and Erythroplakia occur. The current study is an attempt to suggest a positive role of micronutrients such as serum iron and copper in prevention of oral pre-cancer and cancer. It is reasonable to assume that the serum levels of these chemicals might have modifying effects in their etiology. The biochemical assessment of patients with oral premalignant and malignant lesions may help in earlier diagnosis and/or prognosis of these lesions.

Materials and Methods: 30 patients with oral precancerous lesions and conditions and 30 patients with oral cancer were enrolled for the present study. 30 healthy individuals within the same age group were included for the control group. The diagnosis was made on the basis of history and clinical examination and was confirmed later histopathologically. Subsequently, the serum of these patients was analyzed for iron and copper in the laboratory.

Results: The serum copper level was increased in the precancerous and cancerous groups when compared to the control group and this difference was statistically significant. ($F=109.524$; $p<0.001$). The serum iron level was decreased in the precancerous and cancerous groups when compared to control group which was statistically significant ($P<0.001$).

Conclusion: It can be suggested that biochemical assessment of oral precancerous and cancerous patients may help in earlier diagnosis and/or prognosis of these lesions. This may also serve in predicting malignant potential of the premalignant lesions and conditions. In turn this lays down a tremendous responsibility on the shoulders of oral physicians for regular screening and early detection of these diseases which can in turn enhance the health and well being of the population as a whole.

Biography

Rupak Sethuraman completed his Masters Degree (MDS), specialty in Oral Medicine and Radiology from Rajiv Gandhi University of Health Sciences and is currently working as a Faculty in Majmaah University, KSA.

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