

Modern Ideas About Vitamin D And Its Preventive And Therapeutic Effect In Oral Neoplasms.

Khubieva Abriza Karchaevna¹, Bidzhieva Alima Kurmanbievna¹,
Angelova Nina Dionisevna²

¹ North Caucasus State Academy medical institute

² Stavropol State Medical University

ABSTRACT

ANNOTATION:

At the current time, the issue of oncological alertness among dentists at the initial admission is becoming increasingly relevant. Neoplasms in the oral cavity are a seriously significant problem, largely due to the close location of anatomically significant structures. The main problem is based on the methods and methods of leveling these conditions through both surgical and conservative treatment, including the use of vitamin therapy.

The purpose of this review is to summarize the existing data on the role of vitamin D in the treatment of oncological pathology of the oral cavity, as well as in its ability to have an inhibitory effect on their development.

METHODOLOGY:

A retrospective review of the literature among studies and publications in English was carried out, which summarized the relationship of vitamin D and its ability to have a preventive and therapeutic effect in oncological pathology of the oral cavity. The indicators of clinical trials and quantitative indicators and characteristics of the treatment and prevention were taken into account.

RESULTS:

12 studies were analyzed that met the criteria. Among the selected publications, 9 articles met the requirements. Among the 12 studies, 8 were quantified control-experience, 3 were review publications with statistical data included, and 1 was a clinical trial. In a number of studies, the preventive effect of vitamin D and its ability to neutralize the development of oral oncology, as well as reducing negative side effects, after chemotherapy.

CONCLUSIONS:

The available data suggest an association between vitamin D deficiency and an increased risk of oral cancer. Carefully planned studies are needed to examine and determine what role, if any, vitamin D may play in the prevention and treatment of oral cancer.

KEYWORDS: oral carcinogenesis, vitamin D, dentistry, evidence-based dentistry

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I. INTRODUCTION

At the current time, a potential option for maintaining calcium and phosphorus homeostasis is the active use of vitamin D, in many ways the appointment of vitamin in therapeutically prescribed doses promotes cell growth and differentiation, since manifestations in deficiency are associated with an increase in the period, violation of sequence and prolonged mineralization during teething, (namely, inhibitory cell committion) [4].

Vitamin D deficiency is directly related to the regulation of the immune response and inflammatory response, there are correlations between the condition of periodontal tissues, tooth loss and osteoporosis [7,16,18]. The results of the study of people with periodontal diseases who took vitamin D had optimal indicators of gum health. [14]. There is evidence of a correlation in epidemiological studies between vitamin D deficiency and oncology [5,17].

A number of preclinical studies have verified the antiproliferative, proapoptotic, and antiangiogenic antitumor properties of vitamin [13].

Most studies that examined vitamin D levels in patients with oral cancer compared to healthy control groups have shown that vitamin D deficiency is positively associated with the incidence of oral cancer [1,2,8,9,10,15]. In a number of studies, there is information about the preventive role of vitamin D [28,31,34]. In one study, evidence was presented that the inclusion of vitamin D in treatment regimens can mitigate the side effects associated with chemo and radiation therapy of oral cancer lesions and improve the quality of life of patients [1]).

It was noted that the presence of hypovitaminosis D and low health indicators in patients with a pronounced frequency of postoperative relapses and an increase in adverse reactions to chemotherapy [11].

However, while more studies have correlated low vitamin D levels with oral cancer, in a case-control study that examined the association of certain trace elements and oral cancer, Negri et al. [12] concluded that vitamin D is weakly associated with oral cancer

Dudding et al. [6] it is believed that vitamin D significantly reduces the risk of oral cancer. Low vitamin D levels are associated with a higher risk of other chronic diseases, such as cardiovascular disease, diabetes and autoimmune disorders. Stabilization of vitamin D levels indicates positive dynamics in oral neoplasms, however, this phenomenon should not be compared with the chemoprotective effect associated with cancer [3].

According to the results of many studies, the value of vitamin D as an immunity modulator allows to provide protection from the initiators of inflammatory factors, which contributes to primary prevention.

Since the evidence is mixed, our review suggests that additional studies, such as a large prospective clinical trial with high-risk groups or individuals with precancerous lesions, may help assess the potential of vitamin D as a chemoprotective agent.

There is less evidence regarding the use of vitamin D as part of a treatment strategy to improve oral cancer outcomes. Based on one study, the combined intake of vitamin D makes it possible to inhibit inflammatory modulators associated with oral cancer, which suggests an acceptable therapeutic effect [19].

A number of studies have evaluated the expression of VDR genes and their polymorphisms. The data obtained may indicate the ability to verify potential targets of gene therapy and vitamin D [1,2,9, 20].

The definition of vitamin D deficiency has not always been consistent across all studies. Thus, in one study, vitamin D levels were determined and differentiated by the following levels (average, less than average, mild deficiency, deficiency and pronounced deficiency [1]), while in the study [15] vitamin D deficiency in patients with tumors in the oral cavity was defined as a relatively significant value, unlike from the control group-healthy patients. Such differences in the determination of vitamin D deficiency may influence the interpretation of the results.

II. CONCLUSION:

Existing data suggest a link between vitamin D deficiency and carcinogenesis in the oral cavity. A number of sources also verify the assumption that vitamin D may be useful in oral cancer prevention strategies. Carefully planned studies are needed to examine and determine what role, if any, vitamin D may play in the prevention and treatment of oral cancer.

A significant number of studies may become potentially significant due to the low priority of the selected vitamin therapy in the treatment and comprehensive prevention of neoplasms. Additional clinical trials and genetic studies involving ethnically diverse populations are needed to determine the possible role of vitamin D in the prevention and treatment of oral cancer.

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