



## Efficacy of SOLMEGA-PLUS On Different Oral Lesions – Clinical Observation and Literature Review

[PP: 25-30]

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### Abstract:

Nutritional knowledge, of health professionals is critical if we have to reduce the premature morbidity and mortality from leading killer diseases - heart disease, cancer, and stroke. Oral health and nutrition have a synergistic relationship. Oral infectious diseases, as well as acute, chronic and terminal systemic diseases with oral manifestations, impact on the functional ability to eat while also having an impact on diet and nutrition status. Oral health should not be viewed in isolation from general health. Nutrition plays a major role on craniofacial development and prevention of oral infections and oral cancers. In this clinical observation, we prescribed the nutritional product SOLMEGA-PLUS (Solvista Healthcare Pvt. Ltd. India) to the patient having potentially malignant disorders and autoimmune diseases. We found that most of the patients showed clinical improvement, reduction in symptoms and favorable response to this drug supplement.

**Keywords:** *Potentially Malignant Disorders, Reduction of Symptoms, Auto-Immune Diseases*

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### 1. Introduction

Health is a positive quality, emphasizing physical, social, intellectual, emotional, and spiritual well being. The nutrition and environmental factors influence our growth, development, functional abilities, and health. Nutritional knowledge for the health professionals is critical. We must structure our lifestyles based on proper nutrition. The adequate nutrition is essential not only for overall physical health, but also for the development and maintenance of a healthy mouth-

especially the teeth and gums. The relationship between diet and oral health is highly related-as good nutrition has a role in preventing tooth decay and gum disease, while the health of our teeth and gums helps determine the type of foods we can eat. Older people should be encouraged to eat a varied nutrient- dense diet, choose high fiber foods and ensure a good fluid intake. Oral health should not be viewed in isolation from general health. Nutrition plays a major role on craniofacial development and prevention of oral infections and oral cancers.<sup>1,2</sup>



In this clinical trial study, we prescribed the nutritional product SOLMEGA-PLUS (Solvista Pharmaceuticals, HR, India) to the patients having potentially malignant disorders and autoimmune diseases.

We found that the majority of the patients showed clinical progress, decrease in symptoms and encouraging response to this drug supplement.

## **2. The Case Report**

### **2.1 1<sup>st</sup> Case:**

A 55 year old male patient reported to Darshan Dental & Oral cancer center with complaints of pain in 13. History revealed that he was a chronic smoker over the past few years. Clinical examination revealed well demarked reddish-white lesion on anterior palate (Figure-1). It was diagnosed as Smokers palate. But, the patient did not want any further investigations for the lesion. Endodontic therapy was started in 13 and prescribed the Solmega Plus capsules as a Supplement once a day. The patient was under weekly follow-up. The patient did not leave his habit of smoking but the lesion showed favorable response (Figure 2).

### **2.2 2<sup>nd</sup> Case:**

A 30 year old female patient reported to Darshan Dental & Oral cancer center with complaints burning mouth. Clinical examination revealed well demarcated whitish lesion on right (Figure-3) and left buccal mucosa (Figure-5). Provisional diagnosis was mucositis. Solmega Plus capsules were prescribed once a day along with topical anesthetic for symptomatic relief. Patient was under regular follow-up. We found that lesion size reduced (Figure 4, 6) and burning sensation is completely subsided.

### **2.3 3<sup>rd</sup> Case:**

A 36 year old male patient reported to Darshan Dental & Oral cancer center with

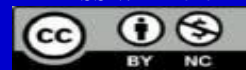
complaints of pain in right maxillary posterior region. Clinical examination revealed well demarked reddish lesion on right buccal vestibule extending up to maxillary tuberosity region (Figure-7). Provisional diagnosis was Erythroplakia. Patient had smoking habit for the past few years. Atraumatic extraction of 18 was performed under local anesthesia. He was prescribed the Solmega Plus capsules along with anti-inflammatory cells. After two weeks, we found that lesion size had reduced (Figure 8).

Incisional biopsy was performed for confirmatory diagnosis. Histopathology revealed parakeratinized stratified squamous epithelium with hyperkeratosis in few areas and evidence of epithelial dysplasia in few areas. Hyperchromatic epithelial cells were seen extending beyond the middle third of the epithelium. The underlying fibrous tissue shows foci of inflammatory cells, minor salivary gland and muscle tissue. Histopathological features were suggestive of Hyperkeratosis with moderate epithelial dysplasia. The lesion was excised under local anesthesia. He was prescribed the Solmega-Plus capsules once a day for 3 weeks. The patient is under regular follow up.

## **3. Discussion**

Solmega -plus is nutrition supplements in capsule form which containing Omega-3 Fatty acids, Green tea extract, Ginkgo Biloba, Gingseng extract, Grape seed extract, Multivitamins, Multi-minerals and Antioxidants.

**Polyphenols** are phytochemicals, found largely in fruits, vegetables, tea, coffee, chocolates, legumes, cereals, and beverages. There are over 8000 polyphenols identified in nature and their main functions are as antioxidant. They protect our body from free radical damage and defense



against UV radiation or aggression by pathogens. In the human body, polyphenols are antioxidants, and have diverse biological properties such as anti-diabetic, anti-cancer, anti-inflammatory, cardio-protective, osteo-protective, neuro-protective, anti-asthmatic, anti-hypertensive, anti-ageing, antiseptic, cerebrovascular protection, cholesterol lowering, hepato-protective, antifungal, antibacterial, and antiviral properties.<sup>3</sup> Effect of polyphenols on human cancer cell lines, is most often protective and induce a reduction of the number of tumors or of their growth. These effects have been observed at various sites, including mouth, stomach, duodenum, colon, liver, lung, mammary gland or skin.<sup>4</sup>

Carotenoids from the diet are accumulated in relatively large amounts within tissues and plasma, where they play a variety of biological functions. The first exposure to carotenoids seems to occur early during our development, as embryonic tissues express carotenoid-cleaving enzymes and transporters that allow the delivery of these compounds to the developing embryo. Once born, breast milk will supply the developing child with the necessary carotenoids and retinoids. Carotenoids play various roles in human health and its important role is production of vitamin A. Only carotenoids with an unsubstituted  $\beta$ -ionone ring have pro-vitamin A activity, and the most important of these carotenoids, and the most abundant of them in our diet and tissues, is  $\beta$ ,  $\beta'$ -carotene ( $\beta$ -carotene). Vitamin A is a potent gene regulator controlling the expression of 700 genes.<sup>5</sup>

Biotin (B7 or vitamin H) is a water-soluble vitamin, which help in promoting the growth of hair and nails. Biotinidase deficiency is uncommon but has been documented. Frank deficiency of may present as conjunctivitis, ataxia, seizure,

skin infections, and developmental delay in children.<sup>6</sup>

Omega-3 fatty acids, Eicosa-pentaenoic acid (EPA) and docosa-hexaenoic acid (DHA) are vital in function. It is widely known that omega-3 fatty acids are effective for improving cardiac function, depression, cognitive function, and blood as well as lowering blood pressure. Previous studies have been predicted that they improved endurance performance, antioxidant and anti-inflammatory responses, and effect against delayed-onset muscle soreness. Many studies have reported on the effects of EPA and DHA intake on delayed onset of soreness of muscles. Regarding serum inflammatory markers, EPA and DHA supplement inhibit elevated tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and interleukin-6 (IL-6). EPA and DHA ingestion reduced the levels of IL-6.<sup>7</sup>

Molybdenum is present as an organic component called molybdopterin (Rajagopalan, 1988). These enzymes are involved in catabolism of sulfur amino acids and heterocyclic compounds, including purines and pyridines. Molybdenum deficiency syndrome producing physiological signs of molybdenum restriction has not been achieved in animals, despite major reduction in the activity of these molybdoenzymes. Molybdenum essentiality is based on a genetic defect that prevents sulfite oxidase synthesis. Because sulfite is not oxidized to sulfate, severe neurological damage leading to early death occurs with this inborn error of metabolism (Johnson, 1997). The intolerance, which was probably due to abnormal sulfur amino acid metabolism, was reversed with intravenous repletion of ammonium molybdate. The average dietary intake of molybdenum by adult men and women is 109 and 76  $\mu\text{g}/\text{day}$ , respectively.<sup>8</sup>



Folic acid intake is an effective dietary-based prevention tool for reducing the risk of neural tube defects. Achieving adequate intake for the prevention of neural tube defects frequently requires the consumption of foods fortified with folic acid and/or the use of folic acid-containing dietary supplements. Four general categories of potential folate-related adverse health effects: cancer, cognition in conjunction with vitamin B<sub>12</sub> deficiency, hypersensitivity-related outcomes, and thyroid and diabetes-related disorders.<sup>9,10</sup>

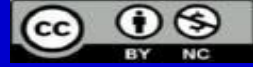
Vitamin B<sub>12</sub> binds to a protein called R-factor, which is secreted from salivary glands. Once the complex arrives at the small intestine, B<sub>12</sub> is cleaved from R-factor by pancreatic enzymes, allowing it to bind to a glycoprotein called intrinsic factor, which is secreted by gastric parietal cells. The newly formed complex of B<sub>12</sub> and intrinsic factor can then bind to receptors on the ileum, which allows for absorption of B<sub>12</sub>. Once absorbed, B<sub>12</sub> is involved in metabolic pathways important in both neurologic and hematologic functions. If B<sub>12</sub> cannot be absorbed, regardless of the etiology, much impairment may occur. Studies have shown that among patients with anemia, approximately 1% to 2% is due to B<sub>12</sub> deficiency. Other studies have shown that among patients with clinical macrocytosis (defined as an MCV > 100), 18% to 20% were due to B<sub>12</sub> deficiency. Vitamin B<sub>12</sub> deficiency is more common in the elderly, regardless of the cause. B<sub>12</sub> deficiency due to pernicious anemia is more common in people of Northern European ancestry.<sup>11</sup>

Right diagnosis with right medicine and good nutrition could be life saving for the patient. We have observed that Solmega-Plus is effective and using it on patients with potentially malignant disorders, autoimmune

disease, anemia, generalized weakness, joint pain, old age and after surgery.

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**Figures with Legends:**



*Figure-1 is the clinical picture showing the erythematous lesion on the hard palate.*



*Figure 2 is the clinical picture showing the healing of palatal lesion.*



*Figure 3 is the clinical picture that shows the whitish lesions on the right buccal mucosa*



*Figure 4 is the clinical photograph that shows resolution of the white lesion on the right buccal mucosa.*



Figure 5 is the clinical photograph showing the whitish lesion on the left buccal mucosa



Figure-7 is the clinical photograph showing the reddish lesion on the right buccal mucosa



Figure 6 is the clinical photograph showing the reduction of the white lesion after medication.



Figure 8 is the clinical photograph showing reduction in the size of the lesion.