



Natural Anti-Oxidants Function in Preventing Periodontal Infections

Schensul Vernazza*

Department of Periodontology and Oral Implantology, Rangoonwala University of Dental Sciences and Research Centre, Pune, India

ABOUT THE STUDY

Inflammation, atrophy or anomalies of the gums, alveolar bone, periodontium, and root cement cause periodontal disease. Gum disease, chronic periodontitis, aggressive periodontitis, periodontitis associated with systemic disorders, acute periodontitis, deformities, and congenital or acquired anomalies are the different categories. Inflammation is the most prevalent type of disease affecting the structures that support the teeth. It typically starts off as a related or non-plaque associated gingivitis, which develops into periodontitis if untreated.

Social diseases include periodontal conditions. Periodontitis is currently thought to be a "complete disease" whose clinical manifestations depend on the combination of numerous environmental and genetic causes. Stress, living situations, education, nicotine use, general illnesses, obesity, and poor oral hygiene are the key social and environmental risk factors that influence the development of periodontal disease. The immune-inflammatory response and the host genotype are also significant factors in etiopathogenesis. The severity of anomalies in periodontal tissues has been shown in the literature to be significantly influenced by oxidative stress.

The human body needs oxygen to function properly, yet this element can also cause unfavourable effects on the body. This has to do with the production of reactive oxygen species (also known as ROS, RFT) and reactions involving free radicals. ROS should be prevented from forming through an enzymatic and non-enzymatic antioxidant mechanism. If this system is damaged, the cell will disrupt the equilibrium between pro- and anti-oxidants, which is what we refer to as oxidative stress. These include, among other factors: toxins (such as heavy metals, herbicides, and pesticides), vigorous exercise, a poor diet (high in fat and low in vegetables and fruits), the common cold, physical or emotional stress, previous viral and bacterial infections, certain medications (such as chloramphenicol, nitrazepam, and

cyclosporin), as well as stimulants like alcohol and tobacco use. Lung endothelial cells, neutrophils, eosinophils, macrophages, and monocytes are the sources of endogenous ROS. Physical causes including ultrasound, ionizing radiation and UV radiation can also produce ROS. In addition, pathogenic processes that take place in cells-which are inflammatory processes-are a significant source of reactive oxygen species.

Ozone, singlet oxygen, superoxide anion radical, hydro peroxide radical (hydroxyl radical), dihydrogen dioxide, nitric oxide, and nitrogen dioxide are the most significant reactive forms of oxygen. In physiological concentrations, ROS carry out crucial regulatory tasks like intracellular or intercellular signalling, impacting signalling cells or relay molecules, taking part in activities like muscle contraction, hormone production, vascular tone regulation, or immune system responses. They also participate in the removal of medications from body cells and assess the bacteriostatic and germicidal efficacy of saliva. ROS can harm cells at quantities greater than those required for health.

The oxidation of low molecular weight substances (such as glutathione, ascorbate, and nicotinamide adenine nucleotides) as well as the depolymerization of hyaluronic acid, the decline in pulmonary surfactant performance, the oxidation of haemoglobin, DNA strand breaks, chromosomal damage, membrane lipid peroxidation, erythrocyte lysis, platelet aggregation, and Inflammation and tissue ischemia, followed by reperfusion, are the two main mechanisms that cause oxidative stress in the body.

Vegetables and fruits are an abundant source of natural antioxidants. Polyphenols, vitamins A and C, tocopherols, carotenoids, selenium, indoles, phytonates, toluene, chlororiline, and glutathione make up the majority of these substances. Periodontal disease can be prevented in part by eating a diet high in antioxidant-rich foods.

Correspondence to: Schensul Vernazza, Department of Periodontology and Oral Implantology, Rangoonwala University of Dental Sciences and Research Centre, Pune, India, E-mail: schensul.v@gmail.com

Received: 03-Oct-2022, Manuscript No. DCR-22-18685; **Editor assigned:** 07-Oct-2022, Pre QC No. DCR-22-18685 (PQ); **Reviewed:** 21-Oct-2022, QC No. DCR-22-18685; **Revised:** 28-Oct-2022, Manuscript No. DCR-22-18685 (R); **Published:** 04-Nov-2022, DOI: 10.35248/2161-1122.22.12.605.

Citation: Vernazza S (2022) Natural Anti-Oxidants Function in Preventing Periodontal Infections. J Dentistry. 12:605.

Copyright: © 2022 Vernazza S. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.