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Changes in the Microflora of the Oral Cavity in Superficial Diffuse Parodontitis

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Relevance of the study. In the effector region, migrated antigen-specific cells provide cellular and humoral forms of immune protection of mucous surfaces. Currently, the cellular composition of ISSO is well studied, including immunocompetent cells: macrophages, neutrophils, dendritic antigen-presenting cells, lymphocytes, as well as activated epithelial cells, fibroblasts, and mast cells. Phagocytes play a leading role in the activity of non-specific cellular defense mechanisms of the ISSO.

A macrophage can re-enter the process of endocytosis and associated secretion, unlike neutrophils, which are "single-use" cells. Epithelial cells are considered to be an integral part of the immune tissue. The recognition of bacterial structures by epitheliocytes is controlled by image-spreading receptors (OPR). In response to bacterial LPS, the gingival epithelium expresses the powerful chemokine 1B-8 and intracellular adhesive molecules, promoting migration of various cells (primarily neutrophils and T-lymphocytes). It expresses a number of other chemokines - CACTEB regulators and activators of normal T-cell expression and secretion, 1P-1, MCP-1, M1P-1a. Activated by antigens, cytokines, inflammatory mediators, microorganisms and their products, the gingival epithelium is a source of 1B-1p, -1a in the periodopt, which induce the secretion of other pro-inflammatory cytokines and chemokines necessary for transepithelial cell migration:- chemokine growth receptor-a, -p, -y, epithelial protein activating neutrophils-78. Epitheliocytes are able to express receptors for a number of cytokines, including interleukin-1, -12, -4, -7, -9, TB-a, SB-u, transforming growth factor-P], perform the function of antigen-presenting cells, which indicates the ability to initiate an immune response. Lymphocytes are the main representatives of immune cells, they are constantly detected in their own gum plate in the form of separate They do not form large clusters of cells. At the same time, T-lymphocytes numerically prevail over B-lymphocytes, growing from the area adjacent to the gingival sulcus towards the oral surface of the gum. 40% of lymphocytes located within the epithelial layer are characterized by morphological signs indicating their mobility. Intraepithelial lymphocytes undergo apoptosis in many areas. A significant proportion of T cells have a memory phenotype, which suggests that the absence of signs of an immune response in healthy epithelium serves as a protective mechanism that prevents their over-stimulation. In areas of active inflammation, B lymphocytes reach 90%, which is associated with increased cell migration from the vascular bed. Under the influence of microbial antigens, cytokines (especially 11.-6) and microbial LPS, plasmocytes actively produce and to a lesser extent 1§M, and in periodontitis and gingivitis, the relative content

of intraepithelial lymphocytes of various subpopulations is increased. Activated T lymphocytes (predominantly Th1) are the main cellular elements that indirectly destroy the alveolar bone due to excessive secretion of 1B-1(3) and soluble POTASSIUM, which induces osteoclast differentiation and activity. Fibroblasts of the oral mucosa produce collagens of various types, elastin, glycoproteins, proteoglycans, and hyaluronan, and possess integrin receptors through which they migrate [85]. They are involved in the regulation of immune processes in the gums, are able to phagocytize and digest cell components, acting as an APC. They are sources and targets of cytokines and prostaglandins, and have a dose-dependent chemotactic response to IGFR, IGF-1, IGF-H, EFR, and TFR-R. Fibroblasts are able to attract various cells through the synthesis of chemokines (MCP-1, RANTES, IL-8) and retain them through the expression of adhesion molecules (ICAM-1 and VCAM-1). They have an immunosuppressive effect, inhibiting the proliferation of activated T-lymphocytes and professional APC. IL-la, IL-1[3, IL-6, TNF-a are synthesized, increasing their secretion during inflammation.

Under the influence of bacterial LPS and pro-inflammatory cytokines, they are able to produce active oxygen metabolites, nitric oxide (N0), which destroy periodontal tissues. With inflammation, the number of fibroblasts decreases, and, as a result, the production of intercellular substance components decreases, which disrupts the tissue regeneration process. At the same time, stimulated bone fibroblasts suppress the differentiation of monocytes into osteoclasts due to the production of osteoprotegerin (ODs) and synthesize proteins that regulate the condition of bone tissue and cement - osteopontin, osteocalcin, bone sialoprotein, alkaline phosphatase (ALP), thereby enhancing the repair of damaged tissues. [60; 131;]. Thus, fibroblasts are active participants and regulators of inflammatory and destructive processes, in the development of which they can play the role of both an enhancer and an inhibitor. Mast cells are located in the gum's own lamina around blood vessels and nerves, often lie along the basement membranes of the epithelium, and can occasionally be found intraepithelially.

Conclusion. Upon activation, they form a number of important lipid mediators prostaglandins, thromboxanes and leukotrienes. These cells secrete a number of cytokines and growth factors: 1B-1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 16, vM-SBR, BP7, BwRR, TvR- (3, bPR, SHYU, M1R, MSR-1, LAMTEB et al. Mast cell mediators enhance the permeability of venules, regulate the balance of fluids in tissues, smooth muscle tone and secretion, provide blood flow, and stimulate the activity of cells involved in inflammation, activate fibroblasts. They induce the expression of adhesive molecules on endothelium and leukocytes (facilitating the rapid migration of immunocompetent cells into tissues). Due to this, mast cells are involved in the initiation and regulation of immune reactions, contribute to the chronization of the inflammatory process.

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