VOL 2, No 68 (68) (2021)

The scientific heritage
(Budapest, Hungary)
The journal is registered and published in Hungary.
The journal publishes scientific studies, reports and reports about achievements in different scientific fields.
Journal is published in English, Hungarian, Polish, Russian, Ukrainian, German and French.
Articles are accepted each month.
Frequency: 24 issues per year.
Format - A4
ISSN 9215 — 0365

All articles are reviewed
Free access to the electronic version of journal
Edition of journal does not carry responsibility for the materials published in a journal.
Sending the article to the editorial the author confirms it's uniqueness and takes full responsibility for possible consequences for breaking copyright laws

«The scientific heritage»
Editorial board address: Budapest, Kossuth Lajos utca 84,1204
E-mail: public@tsh-journal.com
Web: www.tsh-journal.com

ДІАГНОСТИЧНІ КРИТЕРІЇ ХВОРОБ ПАРОДОНТА

Дроник І.І.
Буковинський державний медичний університет
асистент кафедри хірургічної стоматології та щелепно-лицевої хірургії

DIAGNOSTIC CRITERIA OF PERIODONTAL DISEASES

Dronyk I.
«Bukovinian state medical university»
assistant of the department of surgical dentistry and maxillar-facial surgery

Анотація

Згідно сучасним уявленням, початок хронічного генералізованого пародонтиту пов'язаний з появою в пародонтальних тканинах мікс-інфекції – аеробних і анаеробних умовно патогенних і патогенних бактерій

Abstract

According to modern notions, the onset of chronic generalized periodontitis is associated with the appearance in the periodontal tissues of a mixed infection - aerobic and anaerobic opportunistic and pathogenic bacteria.

Ключові слова: періодонтит, бактерії, мікрофлора.

Keywords: periodontitis, bacteria, microflora.

As you know, purulent inflammation is accompanied by a pronounced activation of lymphocytes and macrophages in the lesion. As a result of activation, cells release biologically active compounds. These include mediators of intercellular communication. Actively interacting with other mechanisms of maintaining homeostasis, cytokines are involved in the regulation of almost all protective reactions of the body, determining the inflammatory and immune response. Considering the above, the relevance of studying the microflora of tissues and local cytokine status in patients with chronic generalized periodontitis and determining the dominant pathogens and immunological disorders that are important for a high risk of the formation of a purulent process in the periodontal complex is obvious.

Meta - study of modern clinical and immunological characteristics of chronic generalized periodontitis.

Materials and research methods. Clinical and laboratory examination was carried out in 37 patients with chronic generalized periodontitis of I-II severity with complete dentition at the age from 34 to 50 years. The first group included patients who, in a clinical study, revealed the presence of pus discharge from periodontal pockets. The second group consisted of patients with chronic generalized periodontitis, in whose history there was no purulent discharge from periodontal pockets.

The main groups included only patients who, according to their medical history, did not have any concomitant pathology of other organs and systems.

The control group consisted of 19 apparently healthy people of the same age and sex, with intact teeth and periodontal disease.

Before starting the study, consent was obtained from all patients and individuals in the control group to undergo clinical and laboratory interventions.

Orthopantomography was used to assess the degree and nature of the destruction of the bone tissue of the alveolar bone. The studies were carried out on a visiograph according to the standard method of obtaining images.

For cultural and molecular genetic research methods, the contents of periodontal pockets were used, which were taken with sorbent files No. 30. The species composition of microorganisms was determined by the method of bacterial cultivation and by the method of polymerase chain reaction followed by reverse DNA-hybridization with primers of anaerobic bacteria (molecular genetic method for the detection of microorganisms).

Determination of the concentration of IL-1β, TNF-α and IL-4 was performed by enzyme-linked immunosorbent assay. Unstimulated saliva was collected at the same time, in the morning, on an empty stomach, in measuring tubes, by spitting.

Results and discussion. The conducted microbiological studies made it possible to establish that periodontogenic microorganisms - Actinobacillus actinomycetemcomitans, Prevotella intermedia, Porphyromonas gingivalis, Bacteroides forsythus, were excreted with the same frequency in representatives of both groups.

It was found that in patients with purulent inflammation in periodontal tissues and without it, there is some homogeneity of the species composition of the microflora of periodontal pockets, but the frequency of occurrence of individual groups (except for the main causative agents of periodontitis) of microorganisms is different.

When analyzing the spectrum it was revealed that in patients of group II the dominant role belongs to Staphylococcus aureus, peptostreptococcus, coagulonegative staphylococcus fusobacterial infections.

The association of Staphylococcus aureus with hemolytic and fusobacteria was found only in patients with chronic generalized periodontal disease and generalized periodontitis more than 50% of cases. In addition, in some patients with a purulent inflammatory

process, such anaerobic bacteria that are not characteristic of a healthy periodontium were often detected: Enterobacter spp.

- 4 associations (about 5% of cases), most often found in monoculture (more than 60% of cases).

Thus, the formation of a purulent focus in patients with generalized chronic periodontitis is associated with an increase in the frequency of occurrence in the periodontal pocket of aureus and hemolytic staphylococci, peptostreptococci, fusobacteria in various associations.

The study of the main cytokines in the secretion of the oral fluid and the subsequent analysis of the obtained results revealed.

References

1. Microbiology and immunology for dentists / ed. R.J. Lamont, M.S. Lantuz, R.A. Berne and others; per. from English. VC. Leontyev. - M.: Practical Medicine, 2010.

2. Borisov LB Microbiology and immunology of dental diseases. / L.B. Borisov, I.S. Feilin // Medical Microbiology, Virology, Immunology. - M.: MIA, 2001.

3. Mashchenko I.S. Immunogenetic aspects of generalized periodontitis / I.S. Mashchenko, I.I. Sokolova // Modern dentistry. - 2003. - No. 4.

4. The oral cavity and its secrets as a system of antibacterial and antiradical defense of the body / P.G. Smorgun, A.M. Bykov, V.V. Erichev et al. // Allergology and Immunology. - 2009. - T. 10, No. 3.

МІКРОБНІ МАРКЕРИ ХВОРОБ ПАРОДОНТА

Дроник І.І.
Буковинський державний медичний університет
асистент кафедри хірургічної стоматології та щелепно-лицевої хірургії

MICROBIAL MARKERS OF PERIODONTITIS

Dronyk I.
«Bukovinian state medical university»
assistant of the department of surgical dentistry and maxillar-facial surgery

Анотація

Анаеробні стрептококи і стафілококи в різних асоціаціях, найчастіше з пептострептококами або грибами роду Кандіда, із фузобактеріями, рідше – з ентеробактеріями посідають домінуюче положення в етіології гнійного процесу в пародонті хворих на хронічний генералізований пародонтит.

У той же час, сучасна оцінка змін біоценозу пародонтальних тканин у вирішенні проблеми гнійних ускладнень при генералізованому пародонтиті дозволить обгрунтувати і розробити нові підходи у виборі цілеспрямованої та необхідної при даній патології антибактеріальної терапії. При цьому, потрібно враховувати те, що результат етіотропного лікування залежить не лише від вибору протимікробного засобу, але й від його прийому в комплексі з іншими лікувальними засобами, які підсилюють елімінацію збудників.

Abstract

Anaerobic streptococci and staphylococci in various associations, most often with peptostreptococci or fungi of the genus Candida, with fusobacteria, less often with enterobacteria occupy a dominant position in the etiology of purulent process in the periodontium of patients with chronic generalized periodontitis. At the same time, the current assessment of changes in the biocenosis of periodontal tissues in solving the problem of purulent complications in generalized periodontitis will justify and develop new approaches in choosing targeted and necessary for this pathology antibacterial therapy. It should be borne in mind that the outcome of etiotropic treatment depends not only on the choice of antimicrobial agent, but also on its reception in combination with other drugs that enhance the elimination of pathogens.

Ключові слова: періодонтит, бактерії, мікрофлора.

Keywords: periodontitis, bacteria, microflora.

According to many researchers, the root cause of the pathological process in the periodontium there is an accumulation of soft dental plaque and subsequent formation of dental plaque (bacterial film).

The microorganisms of the bacterial plaque, which is formed in the pre-gingival areas on the teeth and on the mucous membrane of the gingival tissues, are especially aggressive towards the periodontium. The biofilm may include several species of aerobic and anaerobic opportunistic and pathogenic bacteria. It is established that the biofilm protects the microorganisms contained in it from external factors, creates optimal conditions for their reproduction, extracellular polysaccharide matrix promotes the attachment of the biofilm to the moist surface of teeth and oral mucosa, prevents the penetration of antibacterial drugs. } It is known that the pathogenic effect of bacteria is manifested in two ways: first, by a direct toxic effect that causes inflammation and destruction in periodontal tissues; secondly, indirectly, when microorganisms trigger a whole set of immunopathogenetic mechanisms in response to their aggression.