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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.

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МІКРОБНІ МАРКЕРИ ХВОРОБ ПАРОДОНТА

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MICROBIAL MARKERS OF PERIODONTITIS

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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.

The penetration of bacteria from the bacterial film to the gums occurs by moving with subsequent infection of all periodontal tissues due to their colonization by pathogenic and opportunistic microorganisms. As a result, the alteration of colonized tissues is the result of further intercellular and tissue interaction of pathogens and the host organism. The course of this stage depends on both the destructive action of microbes and the corresponding reaction of microorganisms to periodontal pathogenic bacteria that have penetrated the tissues.

In the process of microorganisms is the release of biologically active substances (endotoxins, enzymes, cytokines) that have a damaging effect. action. It is established that under the action of bacterial cytokines the ratios of osteolytic and osteoblast enzymes change, osteoclasts and osteoid metalloproteinase are activated. It is known that bacterial proteases can indirectly affect blood vessels due to the formation of vasoactive kinins and initiate the release of biogenic amines (histamine, serotonin) from mast cells

Studies using polymerase chain reaction (PCR) have shown that almost all microorganisms periodontal pockets may be involved in the inflammatory process. However, the leading role belongs to the most virulent microorganisms: staphylococci, peptostreptococci, bacteroids and members of the family Enterobacteriaccae

Goal. Investigate the species composition of microorganisms in periodontal pockets.

Materials and methods of research. The main contingent of subjects were patients aged 30 to 55 years. The total number of subjects was 23 people. Criteria for inclusion of patients in the study were: verified diagnosis of chronic generalized periodontitis I-II degrees of severity, the absence of other infectious-inflammatory processes, the presence of informed consent to clinical, laboratory and therapeutic measures.

The object of the study was the contents of periodontal pockets . Collection of material was performed in the morning on an empty stomach, before the procedure of brushing teeth. The periodontal pocket exudate was examined and collected with a sterile absorber (№ 30), which was placed in a semi-liquid Stewart transport medium. Further bacteriological examination was performed in accordance with the generally accepted rules of clinical anaerobic microbiology. according to the generally accepted method. Microbiological diagnosis was based on the results of cultures of material taken from periodontal pockets on standard selective media. Cultivation in anaerobic conditions was carried out up to 10 days, and aerobic - up to the 3rd day. Identification of isolated microorganisms was performed on the basis of morphological, cultural, biochemical and antigenic characteristics according to the Bergi classification.Biochemical identification of anaerobic bacteria, streptococci, gram-negative microorganisms was performed using a test system from API.

The PCR method was aimed at detecting the following species of gram-negative periodontal microorganisms Actinobacillus, Actinomycetemco¬mmitans, Prevotella intermedia, Porphyromonas gingivalis, Bacteroides forsithus, Treponema denticola. PCR can detect not only bacterial "markers", but also genes encoding their resistance to antibiotics. In this case, it is not the living microorganisms themselves that are detected, but their nucleic acids. A certain threshold level of test results ensures that any positive result has clinical significance, and those concentrations of bacteria that may be present in a healthy oral cavity give a negative result. Collection of material for the molecular genetic method was performed using sterile paper pins, which were inserted into periodontal pockets.

Results of the research. The analysis of the spectrum of microorganisms revealed that the dominant role belongs to anaerobic streptococcus, Staphylococcus aureus, gram-negative undifferentiated cocci in different associations. Associations of anaerobic streptococcus and Staphylococcus aureus with hemolytic streptococci and fusobacteria in patients with chronic generalized periodontitis complicated by purulent inflammation in periodontal tissues generally accounted for more than 50% of cases

Conclusion.

It was found that the formation of purulent foci in patients with generalized chronic periodontitis is associated with an increase in the frequency of detection in periodontal pockets of Staphylococcus aureus, peptostreptococcus, fusobacteria in various associations, undifferentiated gram-negative cocci**.**

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