EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND MANAGEMENT STUDIES

VOLUME04 ISSUE06
DOI: https://doi.org/10.55640/eijmrms-04-06-07 Pages: 38-44

THE ROLE OF AEROBIC AND ANAEROBIC MICROFLORA IN THE DEVELOPMENT OF DENTAL MUCOSITIS AND DENTAL PERI-IMPLANTITIS

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ABOUT ARTICLE

Key words: Implantation, aerobic and anaerobic microflora, peri-implantitis, inflammation, oral cavity.

Received: 03.06.2024
Accepted: 09.06.2024
Published: 13.06.2024

Abstract: In modern conditions, mixed oral infections: pathogenic and opportunistic bacteria, fungi and protozoa are becoming increasingly important in the emergence of delayed inflammatory complications after dental implantation. Literature data shows that violations of normobiosis in all mucous membranes of the oral cavity are associated with its hygienic condition, dental and periodontal diseases. Local immune protection factors are not of minor importance. To date, the etiological role of the entire group of microorganisms in the appearance of dental mucosa and tooth fairy-implantitis has not been determined. We are talking, first of all, about fungi of the genus Candida, streptococci and staphylococci, the presence of which in the tissues of the oral cavity often indicates immunological diseases in the body, as well as anaerobes found without periodontal signs. tissue disease [2]. In this regard, under certain and not yet fully understood conditions, special attention should be paid to these infectious factors that can lead to the development of inflammatory and inflammatory-destructive complications after surgical interventions carried out to install implants. Rational and effective diagnosis of microbial infection in patients with inflammatory complications after dental implantation remains an unresolved problem, no highly effective

pathogenetic methods of its elimination have been developed.

INTRODUCTION

The purpose of the study is: to identify the role of staphylococcal, fungal and anaerobic infections in the occurrence of inflammatory complications in the delayed period after dental implantation and develop new methodological approaches to their elimination.

Object and methods of research: We examined 32 patients for a long time after a dental implant into the bone, in which inflammatory complications were identified: 18 - dental mucosa and 14 - third-degree dental fairy-implantitis. Of these, 17 (53.1%) were male and 15 (46.9%) were female between the ages of 34 and 52. All patients were practically healthy people, without inflammatory and Infectious Diseases of other organs and systems. At the initial stage of the study, depending on the nosological dependence of inflammatory complications arising in the peri-implant area, patients were divided into two groups, comparable in sex, age and number of regions involved in the pathological process. The first group includes patients with dental mucositis; in the second - dental peri-implantitis all patients underwent a comprehensive clinical and radiological examination using generally accepted methods in modern conditions.

Simplified hygiene index (GreenVermillion) and bleeding index determination for objective assessment of the condition of the tissues of the Peri-implant zone (Mühlemann H. P., Cowell F.) were used. The depth of the Peri-implant pockets was taken into account.

Standard clinical laboratory testing includes general and biochemical blood tests, general urine analysis, blood tests for sugar, HIV, syphilis, hepatitis B and C.

To determine the qualitative composition of bacterial agents in the Peri-implant zone, we used the classical bacteriological research method, as well as the rapid method of polymerase chain reaction (PZR), followed by reverse DNA hybridization. Microbiological studies were carried out on material from the peri-implant zone after rinsing the mouth with distilled water.

In our work, we used the traditional method of processing the results of microbiological research, including calculating the percentage of a particular species in the calculation of the content of bacteria isolated in patients of both groups, as well as the frequency of occurrence of resistant or sensitive strains. to antibacterial drugs under study

RESEARCH RESULTS AND DISCUSSION

Bacteriological studies have shown that dental mucosa and dental peri-implantitis are characterized by differences in etiological structure.

In positive cultures of material from the peri-implant zone of dental mucositis patients, aerobic microflora was often identified (88.9%), less frequently - association with anaerobes (11.1% of cases). In aerobic flora, gram-positive microorganisms were found 84.4%, gram-negative - 5.6%.

Among the aerobic microorganisms isolated in associations, streptostaphylococcal infection prevailed, the proportion of which reached the maximum total values, and the proportion of other infectious agents was not shown much. In addition, in 44.4% of cases, the formation of a 34-component Association of opportunistic microorganisms was observed. A wide range of aerobes is represented in decreasing order by the following bacteria: Streptococcus intermedius (94.4%), Peptostreptococcus micros (77.8%), Staphylococcus spp. (44.4%), Enterobacter spp. (16.7%), Acinetobacter spp. (11,1%). Anaerobic bacteria have been rarely identified in patients with dental mucositis (16.7%). In one case of dental mucosa, periodontopathogenic microorganisms were found in the peri-implant zone: Bacteroides forsythus, A. Actinomycetemcomitans and Porphyromonas gingivalis.

Among staphylococci isolated from patients with dental mucosa, coagulase-negative staphylococci were rarely found. Often Staphylococcus aureus.

The data obtained makes it possible to argue that parasitocenosis of the peri-implant zone in patients with mucous membranes is characterized by a multi-component set of possible triggers of the inflammatory process. Obviously, the leading pathogens that begin the occurrence of this complication after dental intraosseous implantation are streptostaphylococcal infections.

Using the molecular genetic research method, a mixed infection characterized by great diversity due to anaerobes (in 63.3% of patients) and Gram-negative aerobic flora (in 36.7% of cases) was found in material from the implantation pocket of patients. with dental peri-implantitis. Polyinfection is represented by the following periodontopathogenic microorganisms: Bacteroides forsythus (55.6% of cases), Porphyromonas gingivalis (50.0%), Fusobacterium nucleatum (44.4%), A. Actino mycetemcomitans (38.9%), Prevotella.38.9. Their Candida spp., Enterobacter spp., The relationship of Streptococcus intermedius, Peptostreptococcus micros and Staphylococcus aureus to the fungi of the genus respectively 44,4%, 38,9%, 13,2%, 13,2% and was found in 28.5% of cases.

In the available literature, we did not find similar information for patients of this category. Such a high proportion of anaerobic substances and their variety make it difficult to identify the leading pathogenic microorganism, which is usually called the "leader" of the infectious-inflammatory process. It can be seen that this is the specific effect of the interaction of the most diagnosed pathogens and anaerobic agents of parasitocinosis, which largely determine the nature of the inflammatory-destructive process in the peri-implant zone of patients with dental peri-implantitis.

The second direction of the study consisted in assessing the sensitivity of the identified triggers of dental mucosa and dental peri-implantitis to antibiotics that are applied parenterally in clinical practice.

We found that amicacin (100%), rovamycin (94.4%), clarithromycin (94.4%), roxithromycin (94.4%), cefazolin (94.4%) had the highest activity compared to aerobic microflora. , ciprofloxacin (94.4%), actinomycin (94.4%). 77.8%, gentamicin (77.8%).

Compared to anaerobic microorganisms, imipenem, coamoxiclav, ceftriaxone, and vancomycin have universal (90% -100%) activity.

The question of choosing antimicrobial therapy in the complex treatment of dental mucosa and dental peri-implantitis is from the point of view of the data we have received and the clinical testing of a number of antibacterial drugs that are highly sensitive to aerobic infections and anaerobic bacteria. does not cause difficulties. As an etiotropic therapy in patients with dental mucosa, it is recommended to use one of the following antibiotics - Oxacillin, roxithromycin, cefazolin, clarithromycin and ciprofloxacin, in patients with Tooth Fairy-implants - imipenem, coamoxiclav, ceftriaxone and vancomycin.

CONCLUSION

1. Microcinosis of periapical tissue in patients with dental mucositis and dental peri-implantitis is characterized by a large variability in quality indicators of microorganisms.
2. The main pathogenic and opportunistic pathogens of detailed mucositis are Gram-negative microorganisms.
3. The leading place in the etiology of dental periimplantitis is occupied by anaerobic bacteria, mainly periodontal agents, often associated with candidiasis and enterobacterial infections.
4. Isolated pathogens of the dental mucosa turned out to be sensitive to amikasin, clarithromycin, roxithromycin, cefazolin, ciprofloxacin in 90-100% of cases. Absolute sensitivity to the microflora

of the peri-implant zone of patients with dental peri-implantitis is manifested by imipenem, coamoxiclav, vancomycin, ceftriaxone.

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