INTERNATIONAL JOURNAL OF INTEGRATIVE AND MODERN MEDICINE

The Role of Risk Factors in the Occurrence of Chronic Granular Periodontitis

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Abstract: Chronic periodontitis is considered one of the most common types of periodontal pathology, ranking third among the most common dental diseases. Often, with this disease, it becomes necessary to remove teeth. The probability of the development and progressive course of chronic periodontitis is largely determined by a number of local and general factors. Among the main factors influencing the results of endodontic treatment, one can note not only the experience and qualifications of the surgeon, but also the state of general and local immune resistance, anatomical features of the root canal structure, the presence of chronic persistent inflammation in the marginal periodontium.

Keywords: Chronic periodontitis, most common types of periodontal, progressive course of chronic, the state of general and local immune resistance.

INTRODUCTION: The high prevalence of destructive forms of chronic periodontitis and the insufficient effectiveness of known methods of their treatment make the problem of finding new methods and means of rehabilitation of patients with this pathology urgent (Danilova N.B., 2000; Bayramov G.R., 2010). According to the data on the number of requests for emergency dental care in medical dental institutions, patients with acute and aggravated chronic periodontitis account for 75% (Robustova T.G., 2007). The cause of inflammatory processes in the maxillofacial region is the untimely treatment of patients for dental care and a low level of endodontic treatment (Ivanchenko O.N., Popov S.N., Alexandrov M.T., 2010). An analysis of the literature convinces us of the insufficient attention paid by the authors to the assessment of the role of local immune disorders in chronic periodontitis. At the same time, in other dental diseases, in particular, in chronic catarrhal gingivitis, chronic generalized periodontitis, osteomyelitis of the maxillofacial region, a large pathogenetic role of immune and metabolic disorders developing in the oral cavity has been established. Cytokines, the complement system and immunoglobulins are important and functionally universal groups of humoral factors of immune status that implement inflammatory processes. According to the researchers, two types of reactions are leading in the pathogenesis of periodontitis – the formation of an antigen–antibody complex, as well as delayed hypersensitivity. Thus, studies on changes in systemic and local immunity in chronic periodontitis, correction of detected disorders with drugs with antimicrobial, antihistamine, anti-inflammatory, immunomodulatory effects are relevant.

Among the etiological factors contributing to the development of inflammatory diseases of the pulp and periodontium, the main role is played by microorganisms located in the oral cavity in the form of monocultures and associations. A large role is assigned to streptococci, staphylococci, gram-positive and gram-negative rods. Of particular interest are the microbial associations that have been found in many studies, and the presence of anaerobes, streptococci, gram-positive rods, staphylococci, vaillonella and bacteroids in them. Anaerobic bacteria in all forms of periodontitis are regarded as a particularly

important pathogenic factor, since anaerobes are capable of producing endotoxins, exotoxins and aggression enzymes that significantly aggravate the course of the disease and have allergenic properties. Currently, a large number of researchers believe that the size of the periapical focus depends not so much on the number of bacteria as on the number of their species and associative connections. In associations, conditions of synergy are created, which are so important for the self-survival of each type of microorganism. It becomes obvious that it is necessary to eliminate the inflammatory focus as a source of infection, intoxication and sensitization. The effect on the microflora of a complex branched system of macro- and microchannels of the tooth root can be carried out using two main methods: mechanical treatment of root canals and medicinal, through the use of various antiseptics. Many authors consider the most important conditions for successful endodontic treatment to be the most thorough mechanical treatment of root canals. However, most scientific studies of the last decade allow us to conclude that such views are unconvincing. Many researchers have concluded that a significant proportion of root canal walls remain insufficiently untreated. This hypothesis is confirmed by other studies conducted using an electron microscope. It has been scientifically established that less than 75% of the wall of well-passable root canals is properly treated, mainly at the points of contact with the endodontic instrument. A significant part of the microchannels turns out to be poorly processed, since narrow, curved, slit-shaped, 8-phase macrochannels make it difficult to evacuate decay and purification products. Therefore, it becomes clear that as a result of mechanical treatment alone, it is impossible to achieve sterility of the root canals.

In dentistry, there are 3 types of odontogenic granuloma: subcostal, submucosal and subcutaneous. The clinical course of the process in chronic granulating periodontitis, complicated by odontogenic granuloma, is more calm. Complaints of pain in the tooth or a focus in the soft tissues are often absent. With subcostal granuloma, there is a swelling of the bone tissue of the alveolar process of a rounded shape, in the area of the affected tooth. The mucous membrane over this area often remains unchanged, but minor inflammatory phenomena are possible, gradually increasing during the exacerbation of the inflammatory process. Submucosal granuloma is defined as a limited dense focus located in the submucosal tissue of the transitional fold or cheek in the immediate vicinity of the periodontitis tooth, which was the source of infection, and associated with it with the help of a string. The mucous membrane above the lesion is not soldered. Exacerbation of the inflammatory process and suppuration of submucosal granuloma are often observed. At the same time, pain appears in the lesion. The mucous membrane is soldered to the underlying tissues and acquires a bright red color. Abscessing of the submucosal lesion and the exit of purulent exudate to the outside through the formed fistula often leads to the reverse development of the aggravated process. Often, a scar forms at the site of the fistula, and the clinical picture of the submucosal granuloma regains a calm course. Subcutaneous granuloma is characterized by a rounded infiltration in the subcutaneous tissue, dense, painless or slightly painful. A connective cord stretches from the dental alveoli to the focus in the soft tissues.

It happens that subcutaneous granuloma is suppressed, thus painting a picture of exacerbation. At the same time, the skin is soldered to the underlying tissues, acquiring an intense pink or red color. Later, a softening and fluctuation area appears. The abscessing lesion opens outwards, breaking through the thinned area of the skin. Through the formed fistula, the purulent contents pour out. The localization of such fistulas depends on the location of the causal teeth. Thus, cutaneous fistula passages on the chin occur when granulating foci are localized in the area of the tips of the roots of the lower incisors and canines, and in the cheek area and at the base of the lower jaw — the lower molars, in the zygomatic area — the first upper molar, at the inner corner of the eye — the upper canine. Relatively rarely, fistulas open on the skin of the lower parts of the neck. The discharge from such fistula passages is scanty and

has a serous-purulent or bloody-purulent character. In some patients, granulation bulges are observed from the mouth of the fistula. In some cases, the opening of the fistula is covered with a bloody crust. The fistula may close for a while. Gradually, as a result of scar tissue changes in the circumference of the fistula, the mouth of the fistula retracts and turns out to be in a funnel-shaped depression of the skin. It is not always easy to establish a connection between the pathological process in the area of a certain tooth and the fistula course on the skin. Difficulties occur, for example, in the presence of chronic foci in the periodontium of several adjacent teeth. In some cases, palpation of the outer surface of the alveolar process or jaw can reveal a dense scarring in the area of the transitional fold at the level of a tooth. This helps to establish a "causal" tooth.

Radiography with a contrast mass injected through the fistula passage is able to confirm the clinical assumption. The accurate diagnosis of chronic granulating periodontitis is based on the clinical picture and X-ray data. On a targeted X—ray, with this type of periodontitis, characteristic signs are found - a focus of bone tissue rarefaction in the area of the tip of the root. The periodontal line in this area becomes invisible due to the infiltrating growth of granulation tissue, leading to the destruction of the walls of the bone well, as well as dentin and root cement. Their surfaces become uneven. This unevenness is more clearly revealed from the bone tissue, into which small outgrowths go from the periodontium. The compact plate of the alveolar wall is found only in the lateral sections. In the presence of odontogenic granulomas in soft tissues, the destructive focus at the tip of the root always has a small size. In patients with marginal granulating periodontitis, similar changes are detected in the marginal periodontium, where bone resorption occurs horizontally and vertically.

Chronic granulating periodontitis is differentiated from periarticular cyst, fistulas of the face and neck, chronic osteomyelitis of the jaws, actinomycosis. In chronic granulating periodontitis with subcostal granuloma and periarticular cyst, there is a bulge of the alveolar process. However, the cyst is characterized by a displacement of teeth, in some cases there may be no bone tissue in the area of swelling and a focus of bone resorption of significant size with clear, even contours is noted on the sighting radiograph. The presence of a fistula on the face and mucous membrane of the oral cavity, the release of purulent exudate from it, determine the similarity of chronic granulating periodontitis and limited osteomyelitis of the jaw. Odontogenic osteomyelitis of the jaw bones is characterized by the presence of an acute stage of the disease, which is accompanied by severe symptoms of intoxication. In the chronic stage of odontogenic osteomyelitis, foci of bone resorption are determined on a targeted radiograph, in the center of which there are sequester shadows. Mobility appears in adjacent, intact teeth. In chronic granulating periodontitis, fistulas on the face and neck may resemble branchiogenic formations. Probing of the fistula, targeted radiography of the tooth and fistulography of the branchiogenic fistula contribute to the correct diagnosis. In chronic granulating periodontitis and actinomycosis of the face and neck, fistulas have some similarities, but in chronic granulating periodontitis, the fistula is single, and in actinomycosis, the fistulas are located in the center of spilled or separate small infiltrates.

Conclusion. In actinomycosis, it helps to differentiate inflammatory diseases by examining the discharge from the fistula and finding other actinomycetes. Tuberculosis foci are usually multiple and topographically unrelated to any area of the jaw or teeth. Actinomycosis is characterized by the discharge of dense curd masses from these foci. In place of tuberculous foci, characteristic star-shaped scars remain. Microscopic, cytological and morphological studies contribute to the correct diagnosis. The chronic focus of infection is currently considered as a source of heterosensitization and autosensitization, which often leads to severe complications such as endocarditis, rheumatism, and nephritis. Streptococcal

allergy plays a special role in this case. The data of modern studies indicate the influence of inflammatory periapical foci on the state of nonspecific resistance of the body.

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