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Odontia : Journal of Dental Innovations and Oral Health
Vol.1 | No. 1 | 2024 pp. 14–19 | ISSN: XXXX-XXXX

Bactecriological Condition of Periodont Diseases in Children with Disabilities

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Submitted: 25- Nov, 2024
Accepted: 26-Nov, 2024
Published: 13-Dec, 2024

Vol. 1, **No.** 1, 2024.
10.62762/OJDIOH.2024.000000

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Abstract

Currently, inflammatory processes in periodontal tissues occupy one of the leading places in the structure of dental diseases, which is one of the urgent tasks awaiting a solution. In epidemiological studies of recent years, most publications have noted a high prevalence of periodontal diseases among children of all age groups and various health care groups. However, the increasing prevalence and intensity of general somatic pathology, including periodontal diseases in children with disabilities, is accompanied by an increase in the prevalence and intensity of exogenous and endogenous factors, which leads to an exacerbation of clinical symptoms of the disease. Studying the prevalence of periodontal diseases among children with disabilities, developing preventive programs for early diagnosis and effective treatment and prevention remains one of the urgent problems awaiting a solution [2.4.6.8.10.12].

Key words: Periodontal diseases, etiological, superoxide dismutase, extracellular matrix

Introduction

Periodontal diseases in disabled children As one of the most widespread diseases, improving its treatment and prevention methods has not lost its relevance . The prevalence of these pathologies among children with disabilities is 76% higher than that of healthy children , according to the World Health Organization . The exacerbation of chronic inflammatory diseases in children is caused by various local and general factors that provoke and maintain inflammatory processes in periodontal tissues over a long period of time [1.3.5.7.9]. The prevalence and exacerbation of periodontal tissue damage in children with disabilities represents a complex problem in dentistry. The high incidence of periodontal disease in children with disabilities , the duration and severity of the disease, which leads to tooth loss

and a decrease in quality of life, allow us to move this problem beyond the medical sphere and give it important social importance. The prevalence of inflammatory diseases in the periodontium in children with disabilities , the tendency to develop and develop complications, and insufficient treatment and preventive measures determine the importance of this problem in modern dentistry.

Materials and Methods

The purpose of the study. improving the assessment of laboratory indicators of periodontal diseases in children with disabilities.

Results and Discussion

Bacteriological examinations are important in the diagnosis of periodontal diseases in disabled children.

In the bacteriological study, periodontal tissue swabs were taken from children with periodontitis. The swabs were cultured on nutrient media to determine the type of microorganism they belonged to.

When receiving material for bacteriological research, the following rules were followed:

1. Before the material was obtained, no drugs were applied to the ENT of the sick children.

2. Children did not brush their teeth before taking the material.

3. At each work stage, the material was collected at least 2 hours after eating.

4. The material taken for research was delivered to the bacteriological laboratory within 30 minutes after receiving it.

The following material was collected for bacteriological examination in children with disabilities suffering from periodontitis:

The contents of the periodontal canal were collected in a sterile, hygroscopic cotton swab in a dental tube and placed in a sterile vial containing 1 ml of physiological saline solution and closed with a sterile cap.

Isolation of microorganisms from their natural habitat was carried out by inoculating the studied materials into artificial nutrient media. The method we are studying is called “cultural” research. The studied materials were inoculated into nutrient media by taking 0.1 ml from a

vial containing 0.1 ml of oral fluid and a physiological mixture, as well as gingival fluid. The studied material was first inoculated into a dense nutrient medium in Petri dishes. The material was pipetted and the dish was slightly opened, a drop was placed into the medium and spread over the entire surface of the agar with a spatula. To isolate the total microflora, it was inoculated into blood agar prepared as follows. To the thawed and cooled to 45-0 o C nutrient agar (pH 7.4-7.6), 5-10% defibrinated or whole fresh blood of an animal (sheep, rabbit, cattle) or human blood waste is added, the latter is preliminarily checked for sterility by inoculating it in sugar water and leaving it in a thermostat for 18-20 hours. The blood agar is thoroughly mixed without foaming and poured into 3-4 mm thick plates. Cultivation is carried out in a thermostat at a temperature of 37 o C for 18-20 hours [12.14.16.18.19.20].

Endo medium was used to identify intestinal microflora. To prepare it, 100 ml of plain agar (pH 7.4) was heated in a water bath or steamer, cooled to 70 ° C, and 1 g of chemically pure lactose dissolved in a small amount of previously distilled and boiled water was added in a sterile test tube.

In separate test tubes: 1) 2-3 ml of basic fuchsin saturated with alcohol 2) 10 ml of 10% sodium sulfite water mixture (Na 2 SO 3). 1 ml of fuchsin mixture was measured in a sterile test tube and sodium sulfite mixture was added until the fuchsin became colorless (light pink). The prepared mixture was poured onto heated agar, mixed thoroughly without foaming and poured into 3-4 mm thick plates. The hot agar has a light pink color, which becomes colorless when cooled. It was grown in a thermostat at a temperature of 37 o C for 18-20 hours.

To identify fungi of the genus Candida in the studied material, it was sown on Sabouraud's medium. The basis of this medium is yeast water. 80 g of brewer's yeast (or 20 g of dry yeast) are taken per 1 liter of tap water (not distilled), boiled for 15 minutes, filtered through a paper filter, poured into vials and sterilized for 1 atm. 2 minutes. 1% peptone, 2% agar are added to 100 ml of sterilized yeast water, heated until the agar dissolves, then 4% glucose (or maltose) is added, filtered, poured into test tubes (pH 5.8) and sterilized for 20 minutes at 0.5 atm. After sterilization, the medium in the test tubes is removed. Grown in a thermostat at a temperature of 37 o C for 5 days [11.13.15.17.19.20].

The interpretation of the results of the microbiological research of the materials was carried out taking into account the differential symptoms, which are characteristic of each type of bacteria, formed during the growth of the colony.

Staphylococci are characterized by golden (S.aureus) or white (S. epidermidis, S. Saprophyticus) colonies. In micrococci, colonies are usually yellow (with various shades - from

yellow-green to deep yellow) or pink (up to red). Many strains of S.aureus and some strains of S.epidermidis are lysed by erythrocytes, forming a transparent zone of hemolysis around the colonies. Micrococci do not have hemolytic properties.

Streptococci are differentiated by the appearance of hemolysis on blood agar, which is associated with the lysis of erythrocytes. At the same time, a transparent zone is formed around the colonies, with a width of from one tenth to several millimeters, completely covering the environment. Colonies of β -hemolytic streptococci can have the following forms: mucoid, 1.5-2.5 mm in diameter, in the form of a straight circle, resembling dew drops; rough, 1.5-2.5 mm in diameter, with a round colony, grayish-white in color, with a slightly raised center; smooth, small, 1-1.5 mm in diameter, spherical colonies with smooth edges, with a bright moist surface; α-hemolytic or blue streptococci form small colonies on blood agar, translucent, green in color, 1-1.5 mm in diameter, with a smooth or rough grayish-green surface; They do not have the appearance of blood agar and are called nonhemolytic.

Neisseria appear on the surface of blood agar as round, smooth colonies with smooth edges, shiny or rough colonies, irregularly shaped colonies with curved edges, some with yellow pigment. Moraxella species grow as large, translucent, round, moist, sometimes slimy colonies with or without a small area of hemolysis. Acinetobacter species grow as large, white, shiny, often slimy colonies, with a possible small area of hemolysis around them.

Colonies of Corybebacterium are round, opaque, oily, small or large, creamy, whitish-yellow, dark yellow-brown, smooth without areas of hemolysis. Colonies of representatives of the Enterobacteriaceae family on “Endo” medium are convex, round, more or less opalescent, sometimes with a slimy appearance. They can be colorless, and in especially large colonies, they can be pink or grayish with a more or less pronounced black center. Colonies of fungi of the genus Candida are convex, creamy, shiny, but not moist, smooth or slightly wrinkled, first white, then cream-colored. Colonies grown on nutrient media from 0.1 ml of oral fluid and 1 ml of physiological solution and gingival fluid were counted

Conclusion

Among the microorganisms constantly present in the oral cavity of children with disabilities with periodontitis, the most common aerobes of the Streptococcus genus and fungi of the Candida genus were also detected. According to the results of our study, when examining groups of patients with periodontitis, pathogenic microorganisms such as S. epidermidis and S. saprophyticus were detected in periodontal tissues.

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