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STUDY THE EFFECT OF HYGIENIC CARE ON THE MICROBIAL LANDSCAPE OF THE ORAL CAVITY IN PATIENTS USING COMBINED SPLINTING STRUCTURES WITH MODERATE PERIODONTITIS

Sattorov Yusufboy
Clinical resident of the 2nd year of the Department of Orthopedic Dentistry, Samarkand state medical university, Uzbekistan

Burxonova Zarafruz Qobilovna
Scientific adviser: Assistant of the Department of Orthopedic Dentistry, Samarkand State Medical University, Uzbekistan

ABOUT ARTICLE

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Abstract: The microbial composition of the oral cavity was determined in 25 patients with moderate periodontitis using splinting fixed prostheses and 25 control patients using similar prostheses using a set of hygienic measures: rinses, medicinal pastes with herbal extracts and hygienic tablets for cleaning removable prostheses. A study has been conducted.

INTRODUCTION

There are different opinions about the factors affecting the composition of the oral microbiota. These include the presence of pathogenic periodontal microorganisms, the state of the body's defenses, interaction within the microflora and many factors of the external and internal environment (toxic substances, antibiotics, hormones, etc.). Comparison of the oral microflora of healthy people and patients with dentures shows significant differences in the ratio of microorganisms. Thus, the presence of structures made of various metals in the oral cavity reduces the titer of lactic acid bacteria, and galvanism increases the incidence of yeast-like Candida fungi [3]. The use of removable dentures leads to the retention of food residues under the base, which creates favorable conditions for the development of fungi, especially Candida albicans [4].

The purpose of this study was to study the microbial composition of the oral cavity in patients with moderate periodontitis and fixed and removable dentures using hygiene products (cleaning agents, medicinal pastes with herbal extracts and hygienic tablets for cleaning removable dentures).

METHODS

The patients were divided into two groups: the main group and the control group. The main group included 25 patients (14 women and 11 men) aged 37-52 years with generalized periodontitis of moderate severity, complicated by secondary partial tooth loss, who were treated with non-removable splints and arch and plate prostheses. The tires were manufactured at the municipal dental clinic in Samarkand. Patients in this group used a cleaning agent containing chlorhexidine twice a day for two weeks in accordance with the instructions for use, then cancellation for one month, and a paste containing herbs for at least three months. The prostheses were cleaned once a day with disinfectant tablets in accordance with the manufacturer's instructions. The second group (control) consisted of 25 people (15 women and 10 men) aged 32 to 48 years who had a similar splint installed, and hygienic care was provided for the oral cavity using toothpaste intended for the treatment and prevention of periodontal diseases. Prior to the start of the study, all patients underwent professional oral hygiene with the determination of the plaque hygiene index (PI) according to Sliness & Loe [7] and the prosthesis hygiene index according to E. Ambjörnsen [8]. The dental status of all patients was investigated. During the examination, special attention was paid to collecting patient complaints, anamnesis of life and illness, examination of organs and tissues of the oral cavity, assessment of the quality and conditions of use of the splinting prosthesis structure [6]. Patients of both groups were examined on the first day, after two weeks, one month, three months and six months. Bacteriological methods were used to study smears taken from the mouth on an empty stomach and without morning oral hygiene. Traditional classical bacteriological methods were used to identify the types of microorganisms. The study was conducted in the bacteriological laboratory of the State Clinical Hospital No. 40. Yekaterinburg. The material was collected from various areas of the oral mucosa (SOPR) (palate, tongue, cheeks, alveolar process) using blunt traps with Amies transport medium and charcoal (HIMEDIA). The aerobic microflora was cultured on DPT (blood yeast serum agar) medium, chocolate agar, Endo medium, ZSA medium and Sabouraud medium and incubated for 18-24 hours at 35°C in a CO2 atmosphere. Anaerobic microorganisms were cultured on DPT agar and chocolate agar media and incubated in bags with the GENbag anaerobic gas generator (BioMerieux) at 35°C for 48 hours. A Sublow medium was used for mushroom cultivation and incubated at 37 °C for 24-48 hours. To determine the total microbial contamination, a series of 10-fold dilutions in isotonic sodium chloride

solution was prepared from the test material. Colonies were sown from the corresponding dilutions on Petri dishes with nutrient agar, taking into account the incubation conditions. At the end of the incubation period, the number of grown colonies was calculated and the total microbial population and the number of colony-forming units (CFU) in 1 ml were determined. The identification of isolated microorganisms was carried out using generally accepted methods, taking into account morphological, cultural and biochemical characteristics. Sowing was carried out by semi-quantitative methods using bacteriological loops with a diameter of 2 mm [6]. RESULTS AND DISCUSSION OF THE STUDY, the hygiene index (IG) in the main group decreased from 2.64 ± 0.12 to 2.12 ± 0.08 within six months, while in the control group the values ranged from 2.73 ± 0.07 to 2.83 ± 0.09 both at the beginning and after six months (Fig. 1). Saddle hygiene The arched prosthesis and the base of the removable prosthesis also improved from 3.5 ± 0.3 to 1.4 ± 0.2 in patients of the main group. In patients of the control group who did not use Coregatab, this indicator was 3.2 ± 0.5 at the beginning of the study and 3.7 ± 0.4 after 6 months (Fig. 2). 98 cultures were isolated from group 1 patients at the beginning of the study, microorganisms were found in 100% of the samples. Among them were 42.8% Gram-negative bacteria, 45.22% Gram-positive bacteria and 11.98% fungi of the genus Candida. Gram-positive cocci were Str. - 4.08%, St. epidermidis - 1.02%, St. oralis - 1.02%, St. sanguis - 1.02%, St. aureus - 1.02% and Enierococcus faecium - 2.04%. E. have been found in gram-negative flora. coli - 6.13%, Klebsiella oxytoca - 2.04%, Klebsiella pneumoniae - 1.02%, aerobic bacteria - 2.04%, Bacteroides spp - 1.02%, Serratia marcescens - 1.02%, aerobic bacteria - Stenotrophomonas multifilia - 2.04%. Gram-negative cocci: Neisseria spp. - 24.49%. Gram-positive rods and anaerobes: Corynebacterium spp. - 4.08% and Lactobacillus spp. - 1.02%. Fungi of the genus Candida were found in 11.98% of cases, with a contamination level of III-IV. After 2 weeks of using the Corsodil rinse aid, an effective remedy for the treatment of supra-gingival plaque, microbiological research data showed that 82 cultures were isolated in group 1. 59.61% were gram-positive microorganisms, 31.54% were gram-negative and 8.85% were fungi of the genus Candida. Of the isolated cultures, 43.85% were Gram-positive bacteria, Str. viridans, 11.54% Str. spp, 3.84% St. sanguis, 3.84% St. aureus, 5.77% Str. Pyogenes, Corynebacterium spp. - 5.77%. Gram-negative bacteria made up E. coli - 4,23 %, Klebsiella oxytoca - 1,09 %, Klebsiella pneumonia - 0,82 %, E. aerogenes - 1,04 %, Neisseria spp. - 2,69 %, Acinetobacter lwoffii - 2,85 %. The following results were obtained. Candida spp mushrooms. Contamination levels II-III were detected in 8.85% of cases, 62 isolates were detected in group 1 after 6 months. Gram-positive microorganisms accounted for 74.23%, gram-negative - 22.51%, Candida spp. fungi - 3.85%. The following gram-positive cultures were found among the isolated cultures: Str. viridans - 53.85%, Str. spp - 11,54%, St. sanguis - 3,84%, St. aureus - 3,84%, Str. Pyogenes - 5,77%, Corynebacterium spp. -

5,77%. Among gram-negative bacteria Neisseria spp. - 7.69%, Acinetobacter ruwofi - 3.85%. Fungi of the genus Candida were found in 3.85% of cases, while the contamination level was II. The microbial composition of the oral cavity significantly improved in the main group within 6 months after the complex of hygienic measures (Fig. 3). At the beginning of the study, 102 cultures were isolated from patients of group II, of which 46.67% Gram-positive bacteria, 40.83% Gram-negative bacteria and 12.5% fungi of the genus Candida. Among gram-positive bacteria, 41.67% were Str. viridans, 8.33% Str. spp, 4.17% St. sanguis, 4.17% Enierococcus faecium and Corynebacterium spp. - 8.33%. Gram-negative bacteria were represented by Neisseria spp. - 16.66% and Klebsiella pneumonia - 4.17%. Candida spp. They were detected in 12.5% of cases, while the level of contamination varied from III-IV. Further observations of the microbial composition of the oral cavity of the control group showed that the changes were insignificant.

CONCLUSION

Thus, based on the analysis of the study, it can be argued that the use of chlorhexidine-bigluconate-containing rinses, medicinal pastes containing herbs, and disinfecting soluble tablets for the care of removable splinting prostheses for periodontitis can significantly improve oral hygiene. In addition, these drugs have both therapeutic and preventive effects.

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