International Journal of
Health Systems and Medical Science

ISSN: 2833-7433
Volume 1 | No 6 | Dec-2022

Features of the Intensity of Caries in Children with Rheumatism

Rajabov O. A. [1], **Sadieva D. Sh.** [2]

[1, 2] Bukhara State Medical Institute

Abstract: Currently, it is known that diseases of the tissues and organs of the oral cavity can be the initial factors of the development of general pathology. In turn, systemic disorders necessarily leave an imprint on the clinical manifestations, course, outcome of lesions of the hard tissues of the teeth, parotid tissues, oral mucosa, which leads to multiple tooth loss, facial pain, disorders in the temporomandibular joint (TMJ), other severe lesions in young and able-bodied people (Grinin V.M. et al., 2001, 2004; Maximovsky Yu.M., Mitronini A.V., 2014; Afanasyev I.A., 2017). Therefore, the study of the relationship of pathological changes in the dental system with damage to other internal organs and tissues of the body remains a very urgent task for dentistry (Atrushkevich V.G., 2008, 2010; Kuzmina E.M., Yanushevich O.O., 2016; Pavlov N.B., Sabgaida T.P., 2011; Orekhova L.Yu., 2014; Emelyanova V.A., Demidov A.A., 2015; Naumova V.N. et al., 2016).

The effectiveness of prevention, early diagnosis and treatment of dental diseases in patients with somatic pathology depends on the doctor's understanding of the mechanisms of development of such conditions, as well as the degree of their influence on the tissues and organs of the oral cavity (Admakin O.I., Kozlitina Yu.A., 2011; Leontiev V.K. et al., 2014; Lobeyko V.V. et al., 2015). According to the Ministry of Health of the Russian Federation for 15 years from 2000 to 2015, there was an increase in the prevalence of diseases of the musculoskeletal system by 47.9%. Rheumatic diseases are of great scientific and practical interest, the frequency of which in the general structure of human diseases is 0.5 - 3.0%. Significant prevalence, progressive course, pronounced disability of patients indicate social

Rheumatoid arthritis is a rheumatic autoimmune disease. Its ethology has not been fully clarified. It is usually characterized by the presence of chronic erosive arthritis and inflammatory lesions of a number of internal organs (Nasonova V.A., Astapenko M.G., 1989; Plakhova A.O., Sorotskaya V.N., 2018). There is evidence that after 3 years of illness, more than half of people suffering from RA lose their ability to work, and at least a third become disabled (Olyunin Yu.A., 2010; Shostak N.A., Muradyants A.A., 2011). It is known that RA is one of the diseases that cause the appearance of secondary osteoporosis (Nasonov E.L. et al., 2016; Nasonov E.L. et al., 2018). Osteoporosis (OP) is a group of metabolic diseases of the skeleton characterized by a decrease in bone mass, a violation of microarchitectonics, followed by an increase in fragility and the development of fractures (Uryazyev O.M. et al., 2017). It is known that osteoporosis dramatically increases the risk of bone fractures of the entire human skeleton. And this, in turn, adversely affects the quality of life of patients [1.3.5.7.9].

The possibility of developing OP is significantly influenced by the age and gender of the patient. The overwhelming majority of researchers note the most frequent development of OP in women. This may be due to estrogen deficiency that develops during menopause. In addition, women initially, genetically, have a smaller bone mass in comparison with men. At the same time, it is known that during their lifetime, women lose on average about 35% of cortical bone tissue. And as for the trabecular bone, the proportion of its loss can reach 50%. A different situation is observed in men: they have such a loss of bone mass does not exceed, respectively, 20% and 15% (Raskina T.A., Letaeva M.V., 2010).

The most important task of complex periodontal treatment is to weaken the action of factors contributing to inflammation and destruction of tissues (Shimansky Sh.L. et al., 2013, 2015). Along with antimicrobial therapy, this is the normalization of the body's immune response to microbial invasion, as well as the suppression of the activity of matrix metalloproteinases (MMP), proinflammatory cytokines, osteoclasts, reprogramming of macrophages in the affected area (Zubtsov V.A., Rumyantsev V.A., 2011; Pachkunova M. et al., 2011; Badalov N.G. et al.., 2016). A serious problem of implantology is the prevention of periimplantitis and implant survival. Modulation of the immune response (host modulation) - a term that appeared in periodontology and immunology not so long ago, means a certain drug effect on immunological reactions in the body (Preshaw P.M., 2008). At the same time, modulation is understood as either stimulation of underestimated and reduction of overestimated indicators of the immune status of the organism (Heintz C., Mair W., 2014). In periodontology, the method appeared under the influence of a deeper understanding of immunological processes in VZP. Moreover, there are pronounced individual features of these processes in different patients (Novak M.J. et al., 2008). One of the distinctive features of periodontal inflammation is its potentiation by a violent immunological response. Back in 1990, R.C. Williams showed that some substances that activate destructive processes in periodontal tissues modulate the immune response of the body [2.4.6.8.10].

The inflammatory reaction in periodontal tissues is triggered by the microflora of the oral biofilm, especially by anaerobic periodontal pathogens. Thus, Treponema denticola, as one of the most aggressive microorganisms, is able to activate the production of pro-inflammatory cytokines and signaling molecules involved in the pathogenesis of a violent inflammatory reaction (Shabashova N.V., Danilova E.Yu., 2015; Jo A.R. et al., 2014). It turned out that specific short peptides actively involved in embryonic development, differentiation of blood cells and tumor processes are also involved in the development of an immune response in response to the invasion of such a microbial pathogen as P. gingivalis (Nanbara H. et al., 2012). Protein glycosylation reactions are an important biochemical process that ensures the pathogenicity of the subgingival microflora (Tsarev V.N., 2019; Tindle D., Murdoch-Kinch C.A., 2013).

Professional hygiene during the treatment of periodontitis, which involves instrumental treatment of the surfaces of the roots of teeth, aims to reduce the microbial antigenic effect on periodontal tissues (Plessas A., 2014). However, the elimination of the entire mass of the subgingival microbial biofilm is impossible and antigens, although at a lower level, continue to exert their influence. Naturally, periodontal tissues respond to mic-34 by producing inflammatory cytokines (tumor necrosis factor, interleukins, prostaglandin E2) and enzymes, including MMP (Shinkarenko T.V. et al., 2013). Such an immune response is often excessive. Together with other extracellular proteinases, MMPs are involved in various adaptive physiological and pathological processes. Such processes include the implementation of the immune response to inflammation, remodeling of periodontal tissues (Wolf G.F. et al., 2008; Grinin V.M. et al., 2011; Kumar P. et al., 2014). An increase in temperature in the areas of periodontal tissue inflammation increases the activity and aggressiveness of periodontal pathogens, changing the structure of their antigens (Bhatavadekar N.B., Williams R.C., 2009; Curtis M.A. et al., 2011). Smoking increases the number of white blood cells in the circulating blood, but fewer migrate to the gingival furrow than in non-smokers. A correlation was revealed in the mechanisms of pathogenesis of periodontitis and chronic obstructive pulmonary disease in smokers (Lindhe J., Lang N.P., Karring Th., 2008). The severity of the inflammatory reaction in periodontal tissues, according to G. Hajishengallis (2000, 2009) also depends on the presence of innate or acquired polymorphism, the so-called Toll-like receptors (TLR), discovered in the late 1990s.

Among the examined RA patients of the main group, only 5 (6.0%) people did not complain from the dental system. A feeling of dryness in the oral cavity (usually in the morning) was noted by 25 (30.1%) people. Periodically appearing dry lips, the formation of crusts on the red border was noted by 36 (43.4%) patients. 16 (19.3%) people complained about the periodic appearance of painful erosions or ulcers on the oral mucosa. Intermittent pain, clicking or discomfort in the TMJ area was noted by 10 (12.0%) people. 39 (67.2%) of the RA patients examined complained of bleeding gums when brushing their teeth or when eating hard food [11.13.15.16].

Bad breath was noted by 10 (12.0%) of the surveyed. During the survey, it was found that 36 (43.4%) people try to adhere to regular oral hygiene, and the remaining 47 (56.6%) patients, unfortunately, do not always take care of their teeth. Only 16 (19.3%) people use additional hygiene products (floss, brushes, rinses, irrigators). In a conversation with RA patients, we managed to find out that about every second during hygienic procedures experiences difficulties caused by pain in the joints of the hands, stiffness of small joints of the hands in the morning, which lasted about an hour, fatigue in the muscles of the hands in the evening. 29 (34.9%) of the examined regularly undergo a dentist's examination or seek his help, the remaining 54 people (65.1%) visit 68 dentists only if necessary. Of all the RA patients examined, 21 (25.3%) had previously undergone periodontal treatment.

During external examination, 29 (43.9%) patients with RA had a disproportion of the lower third of the face (narrowed, V-shaped or pointed chin shape, protruding corners of the lower jaw, enlarged nose – "bird face"). These are typical signs characteristic of RA patients. Anomalies of soft tissue attachment (shortened frenules of the lips and tongue) were noted in 25 (30.1%) patients. Small vestibule of the oral cavity – in 18 (21.7%) of the examined. Dental anomalies (pathological forms of bite, anomalies of the position of groups or individual teeth) identified in 59 (71.1%) patients.

The dental examination of the comparison group at the first stage of the research revealed that at the time of the examination, 25 (37.3%) people had no complaints from the dental system. A feeling of dryness in the oral cavity was noted by 16 (10.7%) people. Manifestations of cheilitis were noted by 9 (13.4%) patients. 8 (11.9%) people complained about erosion of the mucous membrane, usually after chewing hard food. Discomfort in the area of TMJ was noted by 8 (11.9%) people. Bleeding of the gums when brushing teeth or eating hard food was noted by 44 (65.7%) of the examined patients. 10 (14.9%) of the surveyed reported bad breath. 29 (43.3%) people adhere to regular oral hygiene. Only 13 (19.4%) people use additional hygiene products [12.14.15.16].

Once or twice a year, 35 (52.2%) of those examined undergo a dental examination or seek his help. During the external examination of the patients of the comparison group, we did not detect any noticeable deviations from the usual face shape. Anomalies of soft tissue attachment (shortened frenules of the lips and tongue) were noted in 19 (28.4%) people. Small vestibule of the oral cavity – in 12 (17.9%) of the examined. Dental anomalies (pathological forms of bite, anomalies of the position of groups or individual teeth) identified in 27 (40.3%) patients.

Conclusions

In patients with rheumatoid arthritis, in comparison with dental patients without revealed general chronic somatic pathology, there are statistically significant differences that negatively affect dental health, as well as significant variability in the clinical picture in the oral cavity.

The greatest correlation between the duration of the underlying systemic disease was revealed with such indicators as the depth of periodontal pockets (r=0.87), the degree of bleeding of the gums (r=0.57), the rate of unstimulated salivation (r= -0.77) and the viscosity of saliva (r=0.64). 2. Patients with rheumatoid arthritis with hyposalivation and impaired self-cleaning of the oral cavity have a 100% prevalence of inflammatory periodontal diseases.

Determination of the level of neopterin in the oral fluid of more than 10 nmol / l suggests the presence of disorders in the immune response of the body in inflammatory periodontal diseases and, in particular, in concomitant rheumatoid arthritis.

Used Literature

1. Абдуллаев А.А. Функциональные нарушения височно-нижнечелюстного сустава у больных ревматоидным артритом на фоне частичной вторичной адентии // Автореф. дисс… к.м.н. / ГОУ ВПО "Московский государственный медико-стоматологический университет", Москва, 2004, 23 с.

2. Абдуллаев А.А., Лебеденко И.Ю., Гринин В.М. Функциональное состояние височно-нижнечелюстного сустава в зависимости от выраженности ревматоидного артрита //Актуальные проблемы стоматологии, Сб. научн. трудов МГМСУ, М., 2002,- С. 219 – 220.
3. Авдеева А.С., Александрова Е.Н., Новиков А.А., Смирнов А.В., Черкасова М.В., Насонов Е.Л. Деструкция костной ткани при ревматоидном артрите: роль аутоантител // Научно-практическая ревматология, 2013, Т. 51, № 3, С. 267 – 271.
4. Агаджанян А.А. Стоматологическая помощь больным с нарушениями иммунной системы: Дисс. ... д.м.н., ЦНИИС, М.,1998, 208 с.
5. Адилханян В.А., Гринин В.М., Симонова М.В., Буляков Р.Т., Тумасян Г.С. Кариозные и некариозные поражения тканей зубов у больных ревматоидным артритом // Российский стоматологический журнал, 2011, № 1, С. 15 – 17.
6. Rajabov O.A. The State of Immune Homeostasis of the Mucosa in Prosthics with Metaloceramic and Zirconic Dental Prosthesis. //Central Asian journal of medical and natural sciences. – Испания - 2021. - P.-367-377.
7. Otabek Rajabov, Zaynitdin Kamalov, Husnitdin Irsaliev, Fatima Irsalieva. Comparative Assessment of the Cytokine Profile in Dynamics in Patients with Orthopedic Constructions from Different Construction Materials. //*Annals of the Romanian Society for Cell Biology*,-Румыния-2021. - Vol. 25. - P. - 3197-3202. - (Scopus)
8. Ражабов О.А. Металлокерамика ва циркон протезлардан фойдаланилганда оғиз бўшлиғидаги клиник функционал ўзгаришларнинг диагностик таҳлиллари. //Проблемы биологии и медицины научный журнал по теоретическим и практическим проблемам биологии и медицины – Самарканд. - 2021. - № 4 (129) С. – 54 - 57 (14.00.00; № 19)
9. Ражабов О.А. “Сравнительная оценка цитокинового профиля в динамике у пациентов с металлокерамическими и цирконными зубными протезами” //Проблемы биологии и медицины Научный журнал по теоретическим и практическим проблемам биологии и медицины” – Самарканд - 2021. - № 5 (130). С. - 104-108 (14.00.00; №19)
10. Ирсалиев Х.И., Ирсалиева Ф.Х., Ражабов О.А. “Иммунный барьер полости рта при дефектах зубных рядов и после протезирования металлокерамическими протезами” //Stomatologiya. Тошкент, 2021.- № 4(85). – С.-57-62 (14.00.00; №12)
11. Ражабов О.А. “Влияние зубных протезов на деятельность ротовой полости и десну». //Tibbiyotda yangi kun. - Бухоро, 2022.- № 5 (43) - С. - 218-223. (14.00.00; №22)
12. Rajabov.O.A. “Results of Chinical and HegienicStudies of Fixed Dentures in the Oral Cavity” //Middle Evroreal Sctentifik Bulletin. Volume 24 Issue 2694 – 9970. Чехия - P. - 117-121
13. Rajabov O.A., Asrorov Sh. A. Clinical Characteristics of Patients with Defects of Dentition and Hard Tissues of Teeth and with inframmatory Periodontal Diseases //Central asian journal of medical and natural sciences . – Испания - 2022. - P. - 229-234.
14. Rajabov O.A.,Xodjayeva Sh.Sh. Comparative assessment of structural and functional changes in periodontal tissues during prosthetics with metal-keramik and zirconium dentures //ScienceAsia 48 2022.-P.-969-981(Scopus)
15. Xodjayeva Sh.Sh., Rajabov O.A. Immunological Studiyes In Group Of Patients With Metal-Ceramik Prosthetics Before And After // INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES Volume 1 No 4 Oct-2022.-P.-130-135. (Scopus)
16. Xodjayeva Sh.Sh., Rajabov O.A. STUDIYES IN A GROUP OF PATIENTS WITH ZIRCONIUM PROSTHETICS BEFORE AND AFTER TUROPEAN JOURNAL OF MEDICINE AND PRACTICE Vol. 2 No 4 Oct-2022.-P.- 137-142