

INDICATORS OF IMMUNOLOGICAL REACTIVITY IN PATIENTS WITH PERIODONTAL DISEASE AND ITS CORRECTION

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The annual increase in the production of antibiotics raises the question of the need to study occupational hazards at enterprises producing these drugs.

However, the role of these industries in the occurrence of pathology of the oral cavity organs is very ambiguously assessed in the literature (M. Ya. Klyavin; L. I. Izrailet et al.). The lack of comprehensive studies to assess diseases of the tissues and organs of the oral cavity in workers of these industries prompted us to investigate the pathomorphology of the mucous membrane of their oral cavity in comparison with previously obtained clinical and microbiological data (M. G. Kochetkova et al.; M. G. Kochetkova).

Material and methodology. The biopsy material obtained during tooth extraction was studied. Pieces of gum were taken from intact teeth, which were removed for the purpose of prosthetics. A total of 92 biopsies were examined, 27 of them controls, from people who had no contact with antibiotics.

The following histological techniques were used: tematoxylin-eosin staining, according to Van Gieson. alcian blue, Schiff's reagent according to A. L. Shabadash, silver impregnation according to Bilshovsky — Gross.

Research results and their discussion. Morphological examination of the material showed that inflammatory changes were detected in the actual mucous membranes of the gums of almost all biopsied pieces.

The latter were characterized by different densities, cellular composition and prevalence. In some cases, focal, mainly perivascular inflammation took place, in others the process spread diffusely. In antibiotic production workers, elements of

the *Candida albicans* fungus were detected in the gum tissues much more often than in the control group (42% vs. 11.7%; $t=3.79$, $P < 0.001$).

However, in most cases, the fungal etiology of inflammation was unquestionable. The role of fungi as inflammatory inducers was evidenced by their interstitial location and very active structural state.

Mushrooms. they had the appearance of pseudomycelia, penetrated not only into the deep layers of the gums, but also into the blood vessels of the microcirculatory bed, causing embolism of the latter. Inflammatory reactions increased in places around the pseudomycelia filaments; accumulation of eosinophilic leukocytes was noted in the fungal areas. Sometimes epithelioid cell granulomas with giant cells containing pseudomycellar structures formed in the gum tissues. These facts indicate a fungal or mixed (fungal-bacterial) etiology of inflammation.

The clinical-anatomical and clinical-bacteriological comparisons made by us during the examination of workers in the production of antibiotics revealed a discrepancy between severe pathomorphological and laboratory changes with weakly pronounced clinical shifts. In the smear prints from the mucous membrane of the oral cavity of the workers, large clusters of pseudomycelia of yeast-like fungi were found; there were also layers of exfoliated epithelium, clusters of leukocytes in each field of vision. Microscopic examination revealed inflammatory changes in the gum tissues almost everywhere. These shifts were combined with a poorly defined visually detectable clinic. During the clinical examination of the workers, peculiar complaints were revealed, which at the same time were widespread and of the same type: a feeling of bitterness, dry mouth, burning, tingling of areas of the mucous membrane, dryness, peeling of the skin of the face and the red border of the lips. These complaints were combined with swelling of the mucous membranes of the cheeks, overlying, folding of the mucous membranes of the tongue, which only sometimes reached the degree of catarrhal or

desquamative stomatitis. At the same time, we did not find pronounced fungal lesions of the oral cavity described in the literature in the workers of the examined production (P. F. Bednenko and P. T. Maksimenko), which usually occur with prolonged antibacterial therapy in people suffering from various somatic and infectious diseases. It should be assumed that the reason for the discrepancy between significant morphological, micro-biological shifts and weak clinical manifestations is the high intensity and perfection of compensatory reactions, which largely neutralize painful changes in people who regularly come into contact with antibacterial drugs. The first clinical symptoms of the disease should be considered as a sign of decompensation, indicating that subtle pathological changes in the tissue organ have crossed a certain line of compensation and can no longer be hidden from the doctor and the patient (D. S. Sarkisov).

The peculiarity of antibiotic production workers is that medicines enter the body of healthy people in very small portions and for a long time. This circumstance ensured an effective restructuring of compensatory and adaptive reactions aimed at maintaining homeostasis, which in turn led to the latent nature of the clinical course of fungal lesions of the oral cavity in workers of this production. A comparison of data from clinical, morphological and mycological studies of oral organs in antibiotic production workers revealed a new form of the disease — latent candidiasis of the oral cavity with the presence of compensated and subcompensated forms. Decompensation phenomena are expressed in the development of local inflammatory lesions, such as congestion, cheilitis, various forms of glossitis and stomatitis, which should be regarded as a manifestation of clinical candidiasis.

Pathomorphological examination of the biopsy material has clearly demonstrated the presence of two pathogenetic mechanisms of tissue lesions in fungal infection. The appearance, as well as the intensification of inflammatory changes

around the elements of the fungus, indicates the direct toxic effects of the pathogen on the surrounding tissues. In addition, the damaging effect is also caused by allergic reactions that occur during the chronic infectious process. The altered reactivity of the body is evidenced by the accumulation of inflammatory infiltrate of eosinophilic leukocytes among the cells. Allergic vasculitis in the form of fibrinoid changes in vascular walls and round-cell perivascular infiltration are of the same importance. The fact that lymphoid-histiocytic infiltrates have the greatest severity in the studied form of pathology indicates the prevalence of delayed hyperemic reactions. In other words, the fungal antigen induces cellular immunity reactions to a greater extent. The outcomes of inflammatory changes in the gums were sclerotic processes, which should be considered as a manifestation of barrier adaptive reactions that prevent the penetration into tissues and the spread of pathogenic origin in them. Thickened and compacted vascular and tissue membranes, devoid of acidic mucopolysaccharides, indicated a reduced permeability of the structures. The decrease or complete disappearance of glycogen from the multilayered squamous epithelium in the presence of inflammation was also a factor preventing the penetration of fungal elements into the gum. It is known that glycogenophilia serves as an important mechanism for the spread of this infection (O. K. Khmelnsky).

Conclusion. According to pathomorphological studies, workers in the production of antibiotics have a more frequent presence of fungal elements in the mucous membrane of the gum compared to the control. This causes inflammatory changes and is a risk factor for the occurrence of superficial and deep mycoses.

The discrepancy between the severity of morphological changes in the gum and the erased clinical picture of the process is explained by the perfection of compensatory and adaptive reactions of the workers' body, in connection with which structural shifts in tissues are significantly leveled.

Among the pathogenetic mechanisms of fungal infection, the most morphologically documented are the direct toxic effects of the fungus on tissues and allergic damage to gum structures, in which shifts in cellular immunity are of primary importance.

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