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Influence of the harmful factors of manufacture of synthetic detergents and cleaners on the clinical-functional parameters of the oral cavities in the workers

Abstract: It is established, that under the conditions of manufacture of the synthetic detergents and cleaners among working there are observed decrease in enamel acid-resistance, increase in electroconductivity of the teeth dense tissues and decrease of capillary stability in the gingival in comparison with control group of the studied subjects which precede to development of caries of the teeth and parodontium diseases.

Keywords: oral cavities, the synthetic detergents and cleaners, enamel of the teeth, dental caries, parodontium.

It is well known, that on the influence of adverse ecological and industrial factors the mucosa of the upper respiratory tract as well as of oral cavity respond for the first turn [1, 2].

Meanwhile the functional disorders in the oral mucosa seem to be early preclinical findings of the occupational exposure of the toxic substances on the patients' body [3, 4, 5].

The purpose of the present research was the study of some clinical-functional parameters of oral cavity in workers at manufactures of the synthetic detergents and cleaners (SDC).

Materials and methods. This study included 120 workers of the Joint-Stock Company "Navoyiazot", producing the basic ingredients of SDC (studied group). Besides there was studied hygienic index of the oral cavity, the enamel acid-resistance, electroconductivity of the dense tissue of the teeth, Shiller-Pisarev and Kulajenko tests and index of the peripheral circulation in the parodontium. For comparison the similar research was carried out in 118 employees of administration, mechanics, drivers, watchmen and population living in the area near the factory, but not having of direct contact with industrial factors of Joint-Stock Company "Navoyiazot" (control group).

In order to study more comparable data and exclusion of influence of the effect of sex, age and length of service on studied parameters the research was carried out only in men at the age of 35–44 years with the length of service to 5 years in the both studied groups. The functional parameters of the oral cavity were also compared in the physiological norm [2, 3].

The data received were processed with use of the program Microsoft Excel, the reliability of differences was determined by Student's criterion.

Results and discussion. The data of the researches performed have shown (table 1) that the level of a hygienic condition of the mouth has appeared to be equally ($p > 0.05$) low in the both groups of patients.

The pliability of enamel of teeth to action of the acid buffer at workers in the manufacture of SDC was found lower in 19.3 % of cases ($p < 0.001$), than in the persons of control group, and electroconductivity of the dense tissue of teeth, on the contrary, is higher by 1.6 μA ($p < 0.01$), that indicates, on our opinion, about a developing risk factor for formation of caries of teeth and is the earliest sign of this disease among the workers of the manufacture of SDC. By the earliest attribute of this disease among working in manufacture SDC.

The interpretation of the given tests of Shiller-Pisarev and Kulajenko and as well as the index of peripheral circulation of the parodontium tissue showed that chronic inflammatory process in 31.9 % ($p < 0.001$) were observed more often in the workers than in the persons from control group, the stability of capillaries in parodontium tissues reduced by 23 s. ($p < 0.001$), index of the peripheral circulation decrease by 40.9 % ($p < 0.001$). The received changes of clinical-functional parameters of the oral cavity in the workers, evidently, precede to development of dental caries and parodontium, diseases, that correlates with the literature data [2, 3, 5].

These data also confirmed the results of our clinical investigations that among the workers ($p < 0.01$) there were frequently revealed dental caries, gingivitis and parodontitis than in the persons of control group.

Table 1. – Clinical-functional parameters of the oral cavity in workers at the manufacture of SDC and in the persons of control group (M ± m)

Studied parameters	Physiological norm	Group of workers		Reliability
		studied	control	
Hygienic index, score	0–1	5.5 ± 0.6	5.4 ± 0.3	> 0.05
Enamel acid-resisting enamel, %	40	65.6 ± 2.5	46.3 ± 1.9	< 0.001
Dense tissue electroconductivity of the teeth, μ A teeth, mKA	0	3.0 ± 0.2	1.5 ± 0.07	< 0.01
Shiller-Pisarev test, %	0	77.3 ± 2.2	45.4 ± 1.5	< 0.001
Kulajenko test with Index of peripheral circulation	50–60	24.1 ± 1.3	47.1 ± 1.7	< 0.001
Index of peripheral circulation, %	80–100	21.2 ± 0.7	62.1 ± 1.4	< 0.001

Thus, having analyzed the own and literary data it is possible to say, that under the conditions of manufacture of synthetic detergents and cleaners in the workers there is observed decrease of the acid-resisting of the enamel, increase in electroconductivity of the dense tissue of the teeth, reduction of the gingival capillary stability and index of parodontium

peripheral circulation which, apparently, precede to development of dental caries and parodontium diseases among the workers. Therefore these disorders can serve as integrated parameters of negative influence of production factors of the making of SDC on the health and condition of the oral cavity of the workers.

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Characteristic lesions of liver in cases of car accident trauma with lethal outcome

Abstract: Morphologic peculiarities of close lesions of liver are various, and that is linked with the variety of formation conditions. Though, in spite of the variety of morphology of liver lesions, some types of the lesions and their combinations appear only in specific kinds of automobile traumas.

Keywords: close lesions of liver, automobile trauma, morphological peculiarities.

Topicality. Automobile trauma takes a leading place in the structure of mechanical lesions. According to statistical data mortality of traffic accidents (TA) occupies the third place after cardiovascular diseases and new formations [2].

Every year about 55 mln. car accidents happen in the world and cause the death of 1.2 mln. people and 8 mln. get trauma. The economic loss of TA in some countries is considered to be 2% and more of the foreign exchange earnings [5].

Close trauma of liver made by obtuse objects drew surgeons' attention for a long time because of difficult diagnosis, severe progress and high lethality rate. They worked out the problems of diagnosis, morphology of lesions, mechanisms of

damage appearance, and the methods of surgical treatment. Different from surgeons forensic specialists paid unjustified little attention to close trauma of liver made by obtuse objects. Those few works of forensic character published in literature, revealed only some features of that problem [4]. Even in authorized dissertations dedicated to various kinds of traffic trauma [3, 4] the lesions of liver were paid very little attention. The opinion on problem of the frequency of close trauma of liver is not unequivocal in the literature, dependently on the time and source of the statistic data.

During the last decade the number of the cases with the close trauma of liver started rising, and, in the opinion of some