

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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Конференція внесена до Реєстру заходів безперервного професійного розвитку,
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plain regions of Bukovyna. The highest rates of caries of both primary and permanent teeth were found in children who were born and permanently live in the mountains and foothills, basins of Cheremosh, Siret and Suceava rivers. The indicators of caries incidence in children who live permanently in the flat area, basins of the Prut and Dniester rivers turned out to be more favorable. Because of the conducted research, basin differences of the studied compounds within the limits of the Chernivtsi region were established. Drinking water contains insufficient amounts of calcium, iodine, manganese and sodium. Analysis of water supply sources for fluoride content in all regions of Bukovyna was also carried out. According to the received data, we can trace the ultra-low content of fluoride in the water of the water supply sources. As for pollution indicators, the waters are classified as "slightly polluted". Drinking water corresponds to class I in terms of salt content and pH level, as well as class III - in terms of the group of biogenic compounds.

Conclusions. Thus, the results of the research indicate the presence of regional differences in the mineral composition of drinking water, the inferiority of micro- and macroelement supply of water resources of the region, and the high prevalence of dental caries in children.

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TREATMENT OF MANDIBLE FRACTURES WITH PLATELET-RICH PLASMA

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Introduction. Platelet-rich plasma applied in surgical dentistry can be prepared from a comparatively small amount of patient's blood (40-50 ml) taken either before or during surgery, using a centrifuge machine and simplified separation methods under sterile conditions keeping to the aseptic rules directly before its use.

The aim of study. To improve the effect of treatment and speed up rehabilitation terms of individuals with mandible fractures by means of introducing platelet-rich plasma as an autogenous source of growth factors into the line of fracture.

Material and methods. The processes of bone reparation in the place of mandible fracture in patients were assessed by means of the common clinical and radiological examinations.

Results. The blood was taken from the peripheral vein in the amount 20-40 ml by means of standard sets for blood sampling: disposable sterile catheters and vacuum tubes with anticoagulant. The first centrifugation was performed during 10 minutes at the speed of 1000 rotations per minute (95g). The whole blood separated into the two layers: the lower layer formed by erythrocytes, and the top straw-colored layer formed by plasma and the rest of formed blood elements. After the first centrifugation the tubes were placed into the tripod with the same number of tubes without anticoagulant. The straw-colored layer was absorbed by means of a 65 mm needle and syringe, and the fluid was poured into clean tubes without anticoagulant. Plasma was taken carefully till the layer formed by erythrocytes, and all the manipulations were very cautious not to injure platelets. After that, tubes with plasma were centrifuged for the second time during 10 minutes at the speed of 1500 rotations per minute. After the second stage of centrifugation the content of the tube was the following: the top layer consists of platelet-poor plasma containing fibrinogen and platelets in a very small amount, and the lower one looking like a red circle on the bottom, that is, platelets in high concentration. The syringe with 65 mm needle was inserted into the tube utmost in order to take platelet-poor plasma, till the moment air penetrates into the syringe. About 1ml of plasma with platelets remain in the tube. By means of another needle, 75 mm long, which is enough to reach the bottom of the tube, platelet-rich plasma was collected. The platelet-rich plasma obtained contains platelets in the concentration five times as much as the initial one. High concentration is not sufficient to find bone reparation properties of platelet-rich plasma. After all the stages of centrifugation, platelets must not be damaged in order to perform their artificial activation by means of calcium-thrombin complex before their use. CaCl₂ was added into the tube with thrombin to make solution, and mixed with platelet-rich plasma in the ratio 1:10. Patients with mandible fracture were divided into two groups. The main group including 37 individuals received treatment with additional administration of platelet-rich plasma into the line of fracture. The control group

including 32 patients received traditional treatment. The first signs of formation of the primary bone callus were assessed on X-ray.

Conclusion. Introducing platelet-rich plasma into the line of fracture was found to speed up reparation of the osseous tissue, prevent occurrence of late post-traumatic complications, improve the results of treatment, and speed up the rehabilitation terms for patients.

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INDICATOR OF MICROCRYSTALLIZATION OF SALIVA IN 7-12 YEARS OLD CHILDREN

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Introduction. Studying the mineralizing properties of the oral fluid is important, since the mineralizing ability of the oral fluid affects the condition of the hard tissues of the teeth, that is, the acid resistance of the enamel, the decrease of which leads to demineralization with further progression of the carious process.

The aim of the study is to study indicators of mineralizing potential in children aged 7-12 with caries of temporary and permanent teeth and compare with indicators of children with intact teeth.

Materials and methods. We examined 223 children aged 7-12 from the city of Poltava. In each child, the condition of the hard tissues of the teeth was determined and the DMFT, dft index was calculated. The mineralizing potential of saliva was assessed by its microcrystallization. Evaluation of microcrystallization was carried out according to H.M. Saifulina, O.R. Pozdeev in average scores depending on the types of crystal formation. Assessment of the mineralizing potential of saliva: 0.0-1.0 – very low; 1.1-2.0 – low; 2.1-3.0 – satisfactory; 3.1-4.0 – high and 4.-5.0 – very high.

Results. Regardless of whether children have caries in temporary or permanent teeth, the microcrystallization index is always better in children without caries, which indicates higher mineralizing properties of the oral fluid of children with intact teeth. The results obtained are presented in Table.

Age of children in years	Microcrystallization index (points)			p
	Average indicator	In children with intact teeth	In children with caries (DMFT+dft)	
7-9 (I) n=134	2,16±0,06 n=134	2,97±0,09 n=39	1,83±0,04 n=95	<0,001
10 n=24	2,11±0,11	2,93±0,12 n=5	1,90±0,07 n=19	<0,001
11 n=25	1,97±0,09	2,53±0,17 n=5	1,83±0,07 n=20	<0,001
p ₁₀₋₁₁	>0,05	>0,05	>0,05	
12 n=40	2,0±0,08	2,81±0,13 n=7	1,84±0,06 n=33	<0,001
p ₁₀₋₁₂	>0,05	>0,05	>0,05	
p ₁₁₋₁₂	>0,05	>0,05	>0,05	
10-12(II) n=89	2,03±0,05	2,77±0,08 n=17	1,85±0,04 n=72	<0,001
p _{I-II}	>0,05	>0,05	>0,05	
Of all examinees n=223	2,11±0,04	2,91±0,07 n=56	1,84±0,03 n=167	<0,001

Notes. 1. p₁₀₋₁₁... – probability of difference in indicators of different age groups; 2. p_{I-II} – the probability of the difference in indicators of children 7-9 and 10-12 years old; 3. p – is the probability of indicators of children with caries and without caries at each age.