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**СПЕЦИАЛЬНЫЙ ВЫПУСК**

**4-СЪЕЗД ПАТОЛОГОАНАТОМОВ УЗБЕКИСТАНА С МЕЖДУНА-  
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**ПАТОЛОГИЯ ПЕРИНАТАЛЬНОГО ПЕРИОДА И ДЕТСКОГО ВОЗРАСТА**
**PATHOLOGY OF THE PERINATAL PERIOD AND CHILDHOOD**

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**IMMUNOHISTOCHEMICAL CHANGES IN URINE BLADDER LEUKOPLAKIA**

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*Andijon davlat tibbiyot instituti, Toshkent tibbiyot akademiyasi***ИММУНОГИСТОХИМИЧЕСКИЕ ИЗМЕНЕНИЯ ПРИ ЛЕЙКОПЛАКИИ МОЧЕВОГО ПУЗЫРЯ**

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**Annotation:** In the study, morphological and immunohistochemical changes in urine bladder leukoplakia were studied in 108 biopsy materials obtained during cystoscopy. In the control group, cytokeratin, the Bcl-2 protein-covering epithelium, is poorly expressed only in the basal layer. In the first stage of leukoplakia in cells of the basal layer of the epithelium with acanthosis, in the second stage in the cells of the basal and intermediate layers of the epithelium, in the third stage in cells of all layers of the epithelium developed proliferative activity and metaplasia, high expression of cytokeratin, Bcl-2 protein.

**Keywords:** leukoplakia, metaplasia, parakeratosis, acanthosis, cytokeratin, morphological, immunohistochemical changes.

**Annotasiya:** Tadqiqotda siydik pufagi leykoplakiyasidagi immunogistokimyoviy o'zgarishlari sistoskopiya vaqtida olingan 108ta biopsiya materiallarida o'rganildi. Epitelyning barcha qavatlarida hujayralarida sitokeratin, Bcl-2 oqsili leykoplakiyaning I -2 davrida kam, III - davrida proliferativ faollik va metaplaziya rivojlanganligi, yuqori darajada ekspressiyalanganligi kuzatildi.

**Kalit so'zlari:** Leykoplakiya, metaplaziya, parakeratoz, akantoz, sitokeratin, immunogistokimyoviy o'zgarishlar.

**Резюме:** В данном исследовании изучены иммуногистохимические изменения при лейкоплакии мочевого пузыря в 108 биоптатах, полученных при цистоскопии. Цитокератин, белок Bcl-2 был низким при I-2 стадии лейкоплакии, а пролиферативная активность и метаплазия развивались и были высокими при III стадии лейкоплакии в клетках всех слоев эпителия.

**Ключевые слова:** лейкоплакия, метаплазия, паракератоз, акантоз, цитокератин, иммуногистохимические изменения.

**Relevance:** Urine bladder leukoplakia is one of the most common diseases in urology today. Urine bladder leukoplakia is a polyetiological disease. The relationship of bladder leukoplakia to the pre-tumor process remains one of the most pressing issues [1,2, 3].

**Purpose:** immunohistochemical changes in bladder leukoplakia and study of cell cytokeratin, bcl2, and ki-67.

**Research materials and methods:** The study examined 108 biopsy materials obtained from the bladder during cystoscopy (group 1 - 21 forms of leukoplakia, group 2 - verrucose form - 48, group 3 - eroded form - 39)

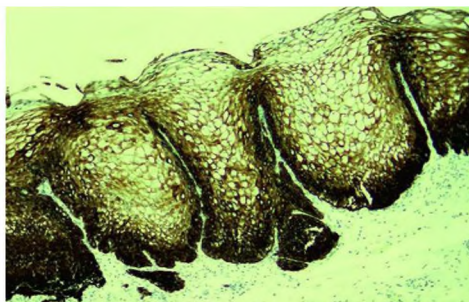
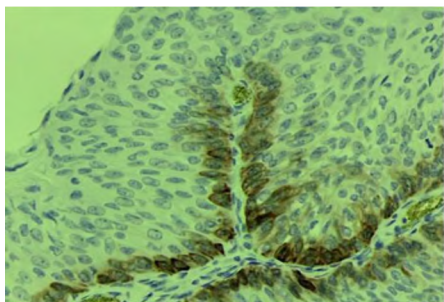
Immunohistochemical changes in the obtained biopsies - by cell proliferation, Bcl -2, P-53, the degree of expression of cytokeratin biomarkers through studied.

Biopsy fragments were hardened for 48 h in 10% neutralized formalin. Dehydration was carried out at increasing concentrations in alcohols and chloroform. Then a series of cuts from paraffin bricks were carried out in a specially automated Ventana Benchmark XT, Roche, Swiss system of deparaffinization, dehydration, demasking and staining in antigens. Cytokeratin, bcl2, and ki-67 were detected using antibodies.

The Student's criterion was used to describe the quantitative nature of the data obtained in the research, and the statistical method of the criterion was used to describe the qualitative nature.

**Conclusions and discussions:** Immunohistochemical examination revealed that cytokeratin, which is an intermediate microfilament present in the

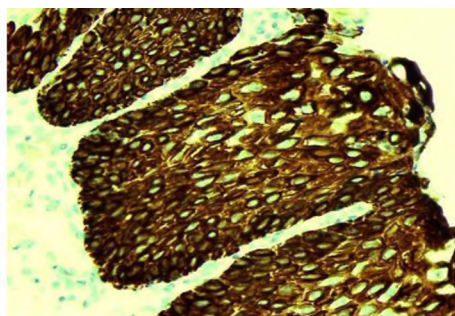
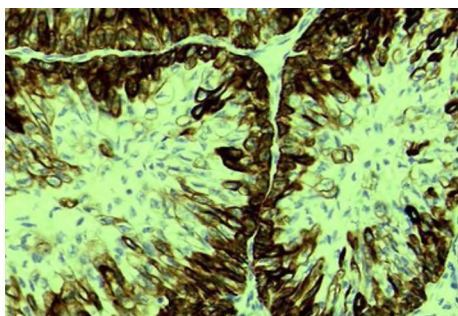
epithelium of the urinary bladder, was only slightly expressed in the basal layer in the control group (Pict. 1). In the early I-stage of the development of leukoplakia, a high level of cytokeratin expression was observed in the cells of the basal layer of the epithelium developed acanthosis (Pict. -2).



**Picture - 1.** Bladder, control group, low expression of cytokeratin only in basal cells.

Coloring: immunohistochemistry (IH). Enlarged by: 10x40.

**Picture - 2.** Bladder, I-degree leukoplakia, strong expression of cytokeratin microfilaments in basal layer cells. Coloring: IH. Enlarged by: 10x10.



**Picture - 3.** Bladder, leukoplakia grade II, expression of cytokeratin in basal and interstitial h cells.

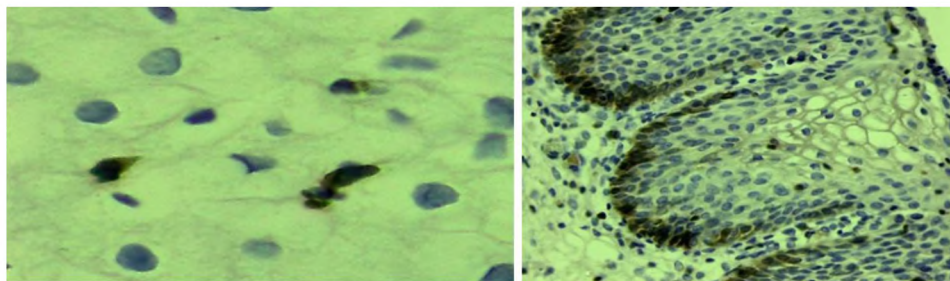
Coloring: IH. Enlarged by: 10x40.

**Picture - 4.** Urinary bladder leukoplakia grade III is characterized by the same level of expression of cytokeratin in all epithelial bundles that are acanthotic, proliferating, and fragmented. Coloring: IH.

Enlarged by: 10x40.

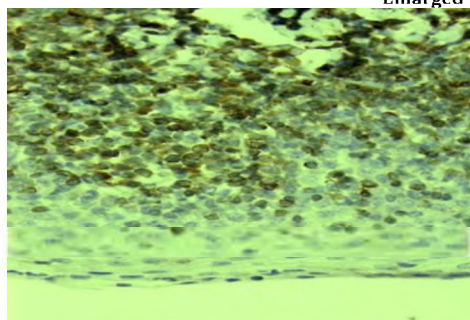
In II stage of leukoplakia, it was found that all epithelial layer cells metaplasia and are located vertically, with a relatively high expression of cytokeratin in the cells of the basal and interstitial layers (Pict.

3). In the III stage of leukoplakia observed proliferative activity and metaplasia in cells of all layers of the epithelium, the presence of inflammation in the special plate, high expression of cytokeratin in all epithelial cells (Pict. -4).



**Picture - 5.** Bladder, leukoplakia grade I, Bcl-2 protein is expressed close to the nucleus of interstitial epithelial cells. Coloring: IH. Enlarged by 10x100.

**Picture - 6.** Urine bladder, leukoplakia grade II, Bcl-2 basal layer expressed in 2-3 rows. Coloring: IH. Enlarged by: 10x40.



**Picture - 7.** Urine bladder, grade III leukoplakia, Bcl-2 is expressed in most cells of the basal and interstitial layers. Coloring: IH. Enlarged by: 10x40.

When the multilayered variable epithelium was seen in general, it was observed that Bcl-2 was expressed in the 1st row of basal layer cells in the form of low, light brown cytoplasmic inclusions (Pict 5). As the cytoplasm of the cells of the middle and surface layers of the multilayered epithelium underwent hydropic dystrophy and because of vacuolated, in some of them, was observed local Bcl-2 protein began expression. Examination under a large microscope revealed that in the first period of bladder mucosal epithelial leukoplakia, almost all epithelium of the middle and superficial layers, except the basal epithelium, metaplasia, that is, flattened and vacuolated by hydropic dystrophy. As a result, the formation of Bcl-2 in the nuclear membrane in the cytoplasm of some cells that underwent such metaplasia was found to be densely packed in the nucleus.

In the early I-period of the development of leukoplakia, a high level of Bcl-2 protein expression was observed in the cells of the basal layer of the epithelium with acanthosis. In II stage of leukoplakia, all epithelial layer cells metaplasia and are located vertically, their basal and interstitial cells express relatively high levels of Bcl-2 protein, and in III stage of the disease the expression of this protein is even more pronounced (Picture 6-7).

**Conclusion:** In the control group, where there was no disease in the bladder, cytokeratin, Bcl-2 protein-coated epithelium, was found to have less levels of proliferative activity, albeit to a lesser extent, in

the basal layer alone. In the early I-stage of the development of leukoplakia, a high level of expression of cytokeratin, Bcl-2 protein, was observed in the cells of the basal layer of the epithelium, which developed acanthosis. In the II-nd stage of leukoplakia, it was found that all epithelial layer cells metaplasia and are located vertically, they express more cytokeratin, Bcl-2 protein, in the cells of the basal and interstitial layers. In the III-rd stage of leukoplakia observed proliferative activity and metaplasia in cells of all layers of the epithelium, the presence of inflammation in the special plate, high expression of cytokeratin, Bcl-2 protein in all epithelial cells.

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