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Expression Levels of the Antiapoptosis Protein Bcl-2 in Women's Urethral Polyps

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Abstract Levels of expression of the antiapoptosis protein Bcl-2 have been found in women's urethral polyps. The results showed that in the urethral covering epithelium in the control group, this protein was found to be expressed only at a low level in the basal floor. During the onset of the metaplastic process in the variable epithelium during the initial period of the polyp, it was observed that Bcl-2 protein expression was elevated in the cells of the basal floor of the epithelium where acanthosis developed. During the formation of the polyp, it was observed that all basement cells of the epithelium metaplasia and were located vertically, with relatively greater levels of expression of Bcl-2 protein in their basal and intermediate basement cells.

Keywords Women, Urethra, Polyp, Leukoplakia, Immunogystochemistry, Bcl-2 protein

1. Introduction

Bcl-2, located on human chromosome 18, which has antiapoptosis from proteins 16, is a homologous protein that slows down the process of domain 6 apoptosis. This protein, with a molecular weight of 22 KDA, is located in the cell and nuclear membranes, sarcoplasmic and mitochondrial membranes [2,4,6,8]. Hyperexpression of this protein prevents the release of calcium ions and slows lipoperexidation by inhibiting antioxidant activity as well as slowing down non-centetase activity. The primary function of Bcl-2 prevents cytochrome s, AIF, ATP, which are antiapoptose molecules in mitochondria, from exiting through bribery holes. Why Bcl-2 closes bribe holes by adhering to the membrane of the mitochondria, proapoptosis disconnects signals and apoptosis does not develop [1,3,5,7].

Urethral polyps are a relatively common safe tumor of the women's peshob release tube and affects the zinc status of pasints, altering the quality of the style of the ghost. Polyps are in most cases localized in the area of the external excretory opening of the urethra, clinically causing aching, thirst when the forehead comes, pollacuria, stranguria, urethrorrhagia and urine dimming. The causes of urethral polyps have been little studied and remain unclear. According to most scientific studies, polyps of the urethra are a hyperplastic process, which, in most cases, is determined by proliferation of the urethral wall with mesenchymal tissues and epithelium due to a violation of their interaction for unknown reasons, without being considered a safe tumor. As the cause of this process, dysgormonal changes in the epithelium of the urogenital area in women and inflammatory processes of chronic infection confirm as significant. The results of immunogystochemical examination of the antiapoptosis protein in its enveloping epithelium in the women's urethral polyp provide assistance that has determined the morphogenesis and developmental cycles of the disease.

The purpose of the study. Determination of the degree of expression of the antiapoptosis protein BCL-2 in the polyps of women's urethra.

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2. Material and Methods

As material, 32 biopsy material from patients who underwent treatment in 2018-2021 was histologically studied in the Urology Department of the multidisciplinary Hospital of the Andijan region. The biopsy flakes were dehydrated in alcohols with increased concentration and paraffin was poured and the bricks were prepared after they had dried in a 10% solution of formalin for 48 hours. Histological cuts of 4-5 µm were made from paraffin bricks, painted in hematocilin-eosin, van-Gison Paints, and an immunogystochemical examination of the BCL-2 marker was carried out, the light was seen under a microscope, the kelaky areas were photographed.

3. Research Results and Their Discussion

To determine the pathomorphological and immunogistochemical changes that occur in the lining epithelium of women's urethra, human-derived biopsy material with no pathology in the urethra was initially

studied as a control group. Then, patomorphological and immunogistochemical changes in the epithelium covering the surface of the urethral polyp were studied in comparison with each other in terms of the clinical-morphological forms and developmental periods of the urethral polyp.

Control group women it is determined that the lining epithelium of the urethral mucosa consists of the usual multilayered variable epithelium, and that its epithelial cells located on the basal floor are located relatively large, hyperchromic, lined up on the basal membrane, most of their nuclei are Aval and oblong in shape. In the surface folds of the multilayered epithelium, it is observed that the cells are relatively thinned, the nuclei are both reduced in size and the staining is opened, the location is flattened. The results of an immunogystochemical examination of the epithelial cell's antiapoptosis protein show that in the control group, expression of this protein is observed at very low levels in the cytoplasm of certain cells of relatively young and cambial levels located only on the basal membrane, and in cells of other intermediate and surface layers (Figure 1-2).

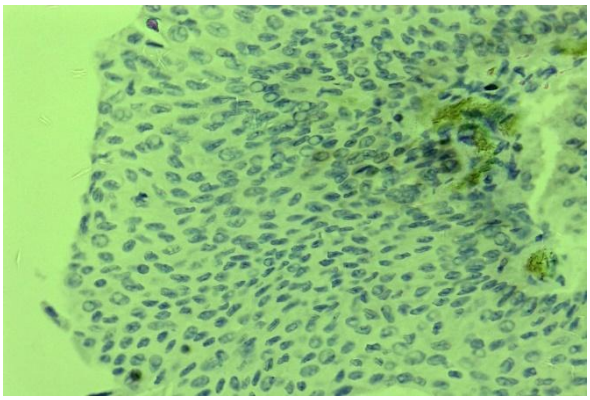

Figure 1. Urethral, Meyor, Bcl-2 protein is low in some cells of the basal floor. Paint: immunogystochemistry. Size: 10x40

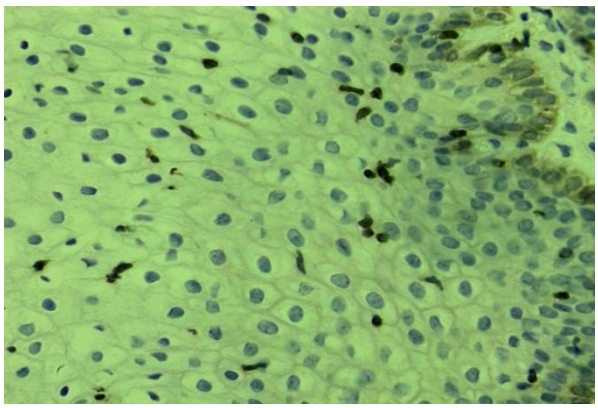

Figure 2. Polyp, initial period, Bcl-2 protein is eskpressed in some cells of the basal floor and intermediate floor. Paint: immunogystochemistry. Қшяу: 10x40

The next task of the study, when the level of expression of the Antiapoptosis protein Bcl-2 with increased proliferative activity of epithelial cells during different periods of urethral polyps, was studied, the following data were found. It is known that the initial period of polyp development is determined by the appearance of metaplastic processes in the changing epithelium. In this, the number of layers of the multilayered epithelium increases, the surface layer epithelium is flattened, entering the vesicular appearance due to an increase in the amount of glycogen and Prokeratin in the cytoplasm of cells. As a result of immunogystochemical examination, this condition is determined that due to an increase in the proliferative activity of the mucosa of the urethral polyps, it is observed that a strong acanthosis develops in the basal part, growing in a bundle-bundle into the connective tissue layer under the epithelium of the basal floor.

When the multilayered variable epithelium is seen in general, BCL-2 in Row 1 of basal floor cells is observed to be expressed in the form of low-level, light-liver-colored cytoplasmic insertion (Figure 2). Since the cell cytoplasm of the middle and surface layers of the multilayer epithelium undergoes hydropic dystrophy and becomes vacuolated, it is observed that the Bcl-2 protein begins to be expressed locally in some of them. When studied in a large lens of the microscope, it is found that the urethral polypi mucosal lining epithelium has metaplayai of all middle and superficial basement epithelium except the basal floor epithelium, that is, both flattened and hydropic dystrophy. As a result, some cells that have undergone such metaplasia have appeared in the nuclear membrane Bcl-2 as part of the cytoplasm, so the liver-colored insertion is detected dense in the nucleus (Figure 3). This morphological and immunogystochemical condition indicates that epithelial cells proliferate and the antiapoptosis protein appears.

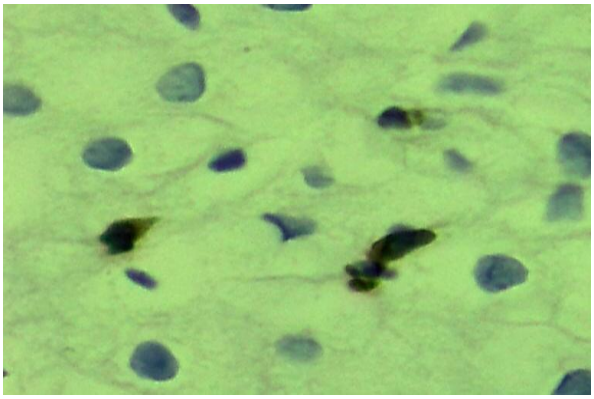

Figure 3. Urethral polyps, Bcl-2 protein intermediate floor epithelial cells are expressed close to the nucleus. Paint: immunogystochemistry. Size: 10x100

During the period of change in the appearance and shape of the cells of the lining epithelium of the urethral polyps, it is determined that the variable epithelium has become a multilayered flat epithelium, and all cells of the uterus are located vertically. It is observed that the basal floor cells consist of a relatively small and blunt epithelium, the cells of the surface layers are relatively large and swell and bulge due to an increase in keratogialin in the cytoplasm. In this II – period of the disease, an immunogystochemical examination showed that, unlike in the i-period, Bcl-2 protein was found

to be expressed in the cytoplasm of some of the cells of the 2-3 rows and intermediate floors located in the basal floor (Figure 4). This is evidenced by the increased proliferative activity of the epithelium of the basal and intermediate floors during leukoplakia II, the fact that the Bcl – 2 protein closed the pore holes adhering to the membrane of the mitochondria, proapoptosis interrupted the signals and stopped the development of apoptosis. During this period of baldness, as noted above, the multilayered variable epithelium is Oval and oblong in shape, located vertically. Bcl-2 is also elongated in the form of positively expressed intermediate floor cells, and the cytoplasm is relatively narrow and light brown in color.

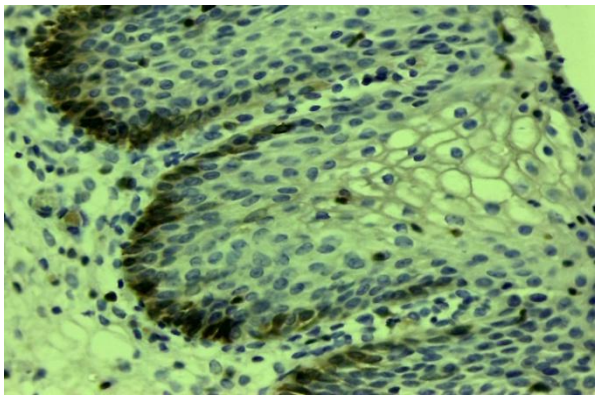

Figure 4. Urethral polyps, BCL-2 basal floor expressed in 2-3 rows. Paint: immunogystochemistry. Size: 10x40

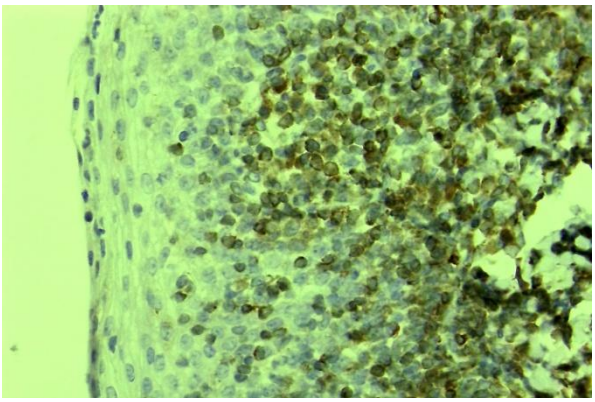

Figure 5. Urethral polyps, Bcl-2 are expressed in most cells of the basal and intermediate floors. Paint: immunogystochemistry. Size: 10x40

A process of proliferative activity and metaplasia is found to have developed in all basal and intermediate rows of the diaric, multilayered variable epithelium covering the surface of the urethral polyp. Another characteristic sign of this period, chronic inflammatory infiltrate in the structure of the private plate of subcutaneous connective tissue of the epithelium, both proliferation of the cells of the vascular wall, in which the Bcl-2 protein is found to be expressed at a positive level.. Immunogystochemical testing has also been observed to differ from previous periods. During this period of the disease, it is observed that the Bcl-2 protein is expressed in the appearance of Brown inside the cytoplasm and in the external cytolemma, adhering to the nucleus of epithelial cells. It is noteworthy that during this period it is confirmed that some cells in the intermediate layers are expressed only in the nuclear membrane, and in other cells only in the external cytolemma.

4. Conclusions

Immunogystochemical study of urethral polyps, which determine in which layers of the enveloping multilayer variable epithelium the Antiapoptosis Bcl-2 protein is expressed, is an important factor in the diagnosis of this disease.

In a control group with no urethral disease, a low level of expression of Bcl-2 protein only in the basal floor indicates that apoptosis activity is maintained.

Early urethral polyps, during the onset of the metaplastic process in the variable epithelium, expression of the Bcl-2 protein in the cells of the basal floor of the epithelium where acanthosis has developed suggests that the antiapoptosis gene is activated.

During the secondary period of polyp development, it was found that all floor cells of the epithelium were metaplased and located vertically, with the Bcl-2 protein expressed to a relatively greater extent in their basal and intermediate floor cells.

During the differentiated period of urethral polyps, it is observed that the cells of all layers of the epithelium develop proliferative activity and metaplasia, the presence of inflammation in their private plate, high expression of Bcl-2 protein in all epithelial cells.

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