

STUDY OF CYTOTOXIC EFFECT OF LISTERINE® ORAL MOUTHWASH ON BUCCAL EPITHELIAL CELLS

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Introduction. Buccal epithelial cells are a convenient, alternative object for screening assessment of the cytotoxic properties of oral hygiene and prophylactic products. Buccal epithelial cells are indirect contact with these hygiene-prophylactic agents. Due to the simplicity of the cell extraction process, the low invasiveness of the procedure, and the clear signs of cell death as an indicator of the toxic effect of the agent, this in vitro model has been chosen as appropriate.

The aim of the study. To investigate the possible toxicological effects of Listerine® oral mouthwash on the buccal epithelial cell model.

Materials and methods. The buccal epithelium collection was carried out from students of NFaU, both sexes without pathology by taking cells using a spatula from the inside of the cheek. The studies were performed 2 times: 1- before using of hygiene-prophylactic (input control), second - 1 week after using the product (twice a day, for 30 seconds). The resulting native material was stained with 1% trypan blue solution. The morphological characteristics of the cells were evaluated and, after 15-20 min, the percentage of dead cells with a damaged membrane which were stained with bright blue was

calculated. The quantitative determination of cells in Goryaev counting chamber and also in the positive control group under the influence of 0.5% hydrogenperoxide was carried out.

Results. Microscopic studies of the state of buccal epithelial cells before using the agent showed that the cells remain viable even after transfer to saline. The percentage of dead cells was in the range of 7-11%. Conglomerates in the form of cell groups practically did not occur. The use of 0.5% hydrogen peroxide as a positive control increased the percentage of dead cells to 30%,. The use of the hygiene-prophatic agent Listerine® during the week did not increase the percentage of dead cells in the test subjects, which indicates the absence of a cytotoxic effect.

Conclusions. Studies have shown no cytotoxic effect of Listerine® mouthwash on buccal epithelial cells and confirmed its safety when used.

WHAT TO CHOOSE: EXPENSIVE ORIGINAL MEDICINE OR BUDGET GENERIC?

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Introduction. It is often said that doctors prescribe only expensive medicines. And nowadays as people have free internet access, so they easily find the analogs to the same medicines, that the doctor prescribed, and go to buy the cheaper one. That leads to objectionable side effects and deterioration of health.

Aim is to explore the differences between budget analogs and expensive original medicines.

Materials and methods: questionnaire among the residents of Tiraspol.

There is actual question: "Why is the price of two medications with a similar effect so different?" First, we should note, that there are two terms "original medicine" and "generic" in pharmacology. The original drug is created over the years and finally gets a patent for 15-20 years, and after the period ends, any company can produce this drug. A generic is a copy of the original drug. And actually only the manufacturer knows how generics are made. The manufacturer of a cheaper product often uses cheap fillers, which deteriorate quality of the drug. It reduces the price of the drug at the expense of cheaper components. And the substance can be not enough purified. For example, the manufacturer of a cheaper product has outdated cleaning equipment. He creates the medicine- a mixture of isomers. It would seem to be small change. But it's very important for our body. Either isomers can not affect cells or the effect is much weaker. Therefore, such medicine acts much worse. The main indicators of medications are the bioavailability of the active substance, the time of maximum activity of a substance and elimination half-life. When the preparation enters the body, it can be partially destroyed, and the remained part is its bioavailability. So this notion is usually the main difference between expensive medicine and cheap ones.

For an illustrative example, we can consider two preparations, which were bought in one of the pharmacies of Tiraspol: "Lasolván" and "Ambroxol". The active substance is ambroxol in both preparations. But, if you pay attention to the concepts which were considered above, then you can see a small difference.

	Lasolván	Ambroxol
Bioavailability	90%	80%
Maximum activity of a substance	0,5-3 h	2 h
Elimination half-life	10 h	7-12 h
Price	44,65 rubles	5,85 rubles