SCREENING RESEARCHES OF INFLUENCE OF GEL WITH THE GLYCOSAMINE ON WOUND PROCESS

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Wound process in response to any damage of integrity of an organism develops. Considering that skin bears big functional loading it's exposed to influence of the damaging factors more than other parts of our body. Soft dosage forms of preparations are a traditional method of treatment of wound process which reduce terms of healing of wounds. That's why development of preparations for local treatment of wound process is actual.

The analysis of the market showed that for second phase of wound process in the market of Ukraine there are 5 preparations: 3 of them - ointments prepared on a fatty basis, 1 - gel and 1 - ointment prepared on a hydrophilic basis. Medicines for local treatment of wounds on a hydrophobic basis create "greenhouse effect" that interferes with formation of granulated tissue. The hydrophilic basis of gel doesn't interfere oxygenisation of the skin cells, absorbs quickly, doesn't leave fat spots. Besides this gel provides uniform distribution of particles, increasing efficiency of treatment, and promotes preservation of humidity in wound tissues, interfering with a tissue hypertrophy.

One of the modern approaches increasing efficiency of wounds healing is development of the preparations containing plastic material. Glycosamine is one such materials.

Glycosamine is the polysaccharide which is taking part in formation of granulated tissue. It is synthesized by fibroblasts and is the plastic material that necessary for biosynthesis of mucopolysaccharides which make a basis of interweft substance of connecting tissue. Surrounding collagen molecules, mucopolysaccharides take part in formation of collagenic fibers, providing stabilization and cementation of fibrous structures.

In the 2nd phase of wound process there is a normalization of a metabolism, especially carbohydrate and protein, process of healing of a wound becomes more active. The glycosamine as a component of connecting tissue accelerates this process.

In this regard the glycosamine was entered into composition of the gel received under the leadership of the department of Industrial technology the prof. Ruban E.A.

Work purpose. To conduct screening research of influence of gels with a glycosamine in concentration of 0,5%, 1%, 1,5% for the course of wound process for models of a linear wound at rats.

Materials and methods. Experiment is made on white rats by weight 180-220 g. For creation of a linear wound to rats under a ksilazin anesthesia on a site of skin of a back a section long 5 sm, immediately imposed seams and processed leather by 5% iodine solution. Animals were divided into 4 groups: the control pathology (CP) - uncured animals, the 2nd, 3rd and 4th groups – animals who were treated by 0,5%, 1%, 1,5% gel with a glycosamine respectively. 7 days of treatment later skin sites with wounds were cut out and hem durability on a tenziometra was investigated.

Results. In group of animal CP durability of cicatricial tissue corresponded to an indicator of a tenziometry of 660,83 g. When drawing on a wound gel with a glycosamine of 0,5% reparative activity in comparison with CP increased by 1,15 times; with 1% - by 1,36 times ($p<0/05$); with 1,5% - by 1,24 times. Therefore, on model of linear wounds expressiveness of reparative effect of gel with 0,5% of a glycosamine made 14,88%; with 1% - 36,19%; with 1,5% - 24,34%.

Conclusion. Thus, gel with the maintenance of a glycosamine of 1% authentically increases durability of cicatricial fabric that is experimental justification of optimum concentration of a glycosamine in wound healing gel.