HISTOLOGICAL EXAMINATION OF THE TISSUES OF THE EAR OF THE EXTERNAL AUDITORY CANAL WITH DIFFERENT TYPES OF TAMPONS

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Introduction. An experimental preclinical animal study was conducted to study the biocompatibility of a cellulose-based tampon.

Research objectives: improving the effectiveness of surgical treatment of patients with chronic purulent otitis media by improving the management of the surgical ear in the early postoperative period.

Materials and methods: tissues of the external auditory canal of laboratory animals. Morphological examination of the tissues of laboratory animals of the external auditory canal.

On the basis of the stationary vivarium of the RL GrSMU, a scientific experiment was conducted using laboratory animals. For the experiment were used 36 Chinchilla rabbits. After performing the miringotomy, various types of tampons were placed in the rabbit's ear canal – a cellulose tampon, a Merocel tampon, and a gauze tampon. Rabbits were withdrawn from the experiment on the 7th, 14th and 21st days after the operation. Lymphoid and eosinophilic infiltration of ear tissues was evaluated.

On the 7th day after the operation, lymphoid and eosinophilic infiltration of the ear tissues was moderately pronounced in all groups. On the 14th day, lymphoid infiltration of ear tissues was moderately pronounced in all groups, eosinophilic infiltration of ear tissues was weakly pronounced in the group with a cellulose tampon, moderately pronounced in the group with a Merocel tampon, and highly pronounced with a gauze tampon. On the 21st day, lymphoid infiltration of the ear tissues was weakly expressed in the group with a cellulose tampon, moderately expressed in the groups with a Merocel tampon and a gauze tampon. Eosinophilic infiltration of ear tissues is moderately pronounced in all groups.

Results: the evaluation of the results of the experiment showed that on the 7th, 14th and 21st days after the operation, the cellulose tampon affects the morphology of the rabbit ear canal tissues at the contact point to the same extent as the Merocel tampon and the gauze tampon.

Conclusions: Cellulose is a bioinert material, and a cellulose tampon is safe, doesn’t cause violations of homeostasis and a pronounced local reaction in the rabbit's auditory canal. Taking into account the experimental data obtained and the successful experience of application in other areas of surgery, cellulose can be considered as a material for making a tampon for tamponade of the external auditory canal, with subsequent clinical trials.