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EXPERIMENTAL STUDY RESULTS OF THE APPLICATION OF HEMOSTATIC COLLAGEN SPONGE

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ABOUT ARTICLE

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Abstract: In the last decade, based on the analysis of both referrals to primary care institutions and groups of patients treated in an inpatient setting, diseases of the nose and paranasal sinuses (BYoB) have firmly taken the first place in the general morbidity structure of ENT organs. With the introduction of endonasal-endoscopic surgical methods, the number of operations performed in the nasal cavity has increased significantly. Currently, on the basis of the data of the endoscopic examination of the nasal cavity, CT of the nose and adjacent nasal cavities, and the analysis of the performed functional examinations, a treatment plan aimed at eliminating the pathological process, maximally preserving the mucous membrane of the nose and cavities, anatomical bone structures, correcting their configuration, and restoring the lost functions is being determined. . In recent years, a large amount of data on functional endonasal preventive operations has been collected.

INTRODUCTION

Advances in modern medicine make it possible to expand the scope of combined surgical practices [2]. In the literature, there are pathological processes in the area of the nasal septum, deformations of the structures of the lateral wall of the nasal cavity, and the natural opening of the nasal cavities; perforative odontogenic maxillary sinusitis; Issues related to the implementation of typical variants of joint operations in finger-like extensions of the paranasal sinuses combined with damage to the orbit have not yet been clarified [5,11,13,14]

Although in joint operative practices, to one degree or another, injuries of the mucous membrane occur in different areas of the nasal cavity, the problem of prevention and treatment of post-operative traumatic bleeding becomes extremely important [4-10]. The number of patients with nosebleeds is 14.7-0.5% among those in need of emergency ENT care. Epistaxis can be life-threatening due to significant blood loss. The following are the causes of nosebleeds: traumas, surgical operations on nasal structures, atrophy of the mucous membrane of the nasal cavity, arterial hypertension, blood diseases, therefore, quality hemostasis is still a relevant issue today [3,12,15-21].

The hemostatic effect of tamponade is, on the one hand, a strong mechanical pressure on the bleeding vessel, and on the other hand, keeping the blood in the nasal cavity, which ensures faster blood clotting and faster thrombus formation in the vessel. However, this method of stopping nosebleeds is quite traumatic for the mucous membrane of the nasal cavity, which leads to its dysfunction and causes significant pain in patients. Tampon removal is also a painful process [22]. In addition, the presence of a gauze tampon in the nasal cavity is accompanied by strong inflammatory changes of the mucous membrane, accompanied by the appearance of signs of intoxication.

The results obtained. The nature of the interaction of the collagen film with the tissue was determined after a single covering of a newly formed subcutaneous wound in the neck area of rats with this film.

The weight of the rats did not change during the experiment. On the edge. there is no scratching, suppuration or other damage in the area of interaction between the film and the skin. As in other cases, in animals of the control group, where the surface of the defect was not covered with a collagen film, the formation of granulation tissue was noted from the first day, which initially consisted of only neutrophils (1 day), then neutrophils and monocytes (3 days). The wound surface is covered by a thin film consisting of inflammatory cell-elements, hemolytic erythrocytes and intercellular fluid. Later (7-10 days), a clot consisting of dead cells and fibrin infiltrating granulation tissue is formed on the surface of the wound.

When the wound surface was covered with a collagen collagen film, granulation tissue was noted only at the border of the skin and the film. By the 3rd day of the experiment, the preservation of the inflammatory infiltrate was observed with the formation of an infiltrative flange around the film. Later, with the formation of a scar consisting of thin collagen fibrils of the film and private dermis, the skin is attached to the collagen film (3-7 days), there is no developed inflammatory reaction under the film.

By 10 days, the wound is covered with a thin film of collagen fibrils entangled in the dermis at the periphery, and is attached to layers of structures located in the area of the bottom of the wound. Leukocyte infiltration of the wound is not observed.

Conclusion. Experimental studies have shown that the collagen film in the early stages does not have the property of damaging and causing injury to local tissues. The reaction of the surrounding tissues to the film is insignificant and non-inflammatory. In the late periods of the research, the collagen fibrils of the film in the periphery are observed to grow into the mucous membrane and the layers of the structures of the wound area . The obtained data indicate the possibility of using collagen film in the clinic in order to optimize the surgical treatment of joint pathologies of the nasal cavity and to accelerate the regeneration processes of the postoperative wound.

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