ANALYSIS OF INTRAOPERATIVE DATA TO ASSESS THE EFFECTIVENESS OF A NEW METHOD OF SEALING SUTURES IN LUNG SURGERY

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Abstract. Aerostasis after surgical interventions on the lungs, as well as with lung injuries, remains an unresolved problem of pulmonary surgery. The purpose of this study was to develop and intraoperative evaluation of a new method of sealing sutures in lung surgery. A total of 275 patients with various lung pathologies requiring surgical treatment were included in the study. The largest number of operations were performed for echinococcosis of the lungs, in the comparison group 60 (41.7%), in the main group 73 (55.7%). Next in number were patients with pulmonary bullous emphysema – 43 (29.9%) and 26 (19.8%) patients, respectively. Summarizing the primary studies on intraoperative verification of the effectiveness of the proposed method of achieving aero- and hemostasis in lung surgery, the following can be noted.

Keywords: aero- and hemostasis in lung surgery; sealing of sutures in lung surgery; complicated residual cavities after echinococcectomy; Hemoben.

Aerostasis after surgical interventions on the lungs, as well as with lung injuries, remains an unresolved problem of pulmonary surgery. The purpose of this study was to develop and intraoperative evaluation of a new method of sealing sutures in lung surgery. In the proposed method, after performing the main stage of the operation, intraparenchymatous pricking with a gel substance of the drug Hemoben is performed to achieve local aero- and hemostasis in the area of damaged or sutured lung tissue.

A total of 275 patients with various lung pathologies requiring surgical treatment were included in the study. All patients were divided into two groups. In the main group, 131 patients in 2022-2023 had a new method of sealing sutures after performing the main stage of lung surgery. The comparison group included 144 patients with lung pathology comparable to the main group, operated on from 2019 to 2021, in whom additional measures were taken during intraoperative verification to eliminate the insolvency of aero- and (or) hemostasis by traditional methods.

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number were patients with pulmonary bullous emphysema – 43 (29.9%) and 26 (19.8%) patients, respectively. Pancyric pleurisy was verified in 16 (11.1%) and 6 (4.6%) patients. In other cases, patients with focal lesions such as tuberculosis, hamartoma, fibrochondroma, lung abscess, cases of complicated residual cavities after echinococcectomy (hemoptysis, bronchial fistula, suppuration), as well as patients who underwent lobectomy for cystic hypoplasia of the lung lobe or bronchiectasis complicated by pneumofibrosis, were operated on.

Taking into account the fact that the developed method can be used for both open and video thoracoscopy operations, these two types of intervention were included in the study groups and for a more objective analysis in the chapters with the results of their own research, the analysis was also distributed according to this factor. Open surgeries were performed in 93 (64.6%) patients in the comparison group and in 87 (66.4%) patients in the main group. Video thoracoscopy of the intervention was performed in 51 (35.4%) and 44 (33.6%) patients, respectively. Among the range of open operations, echinococcectomies, excision and suturing of lung bull(s), marginal resection, lobectomy were performed. Echinococcectomies from the lungs, excision and suturing of lung bullae(s), marginal resection and lobectomy also took place during videothoracoscopy interventions.

Summarizing the primary studies on intraoperative verification of the effectiveness of the proposed method of achieving aero- and hemostasis in lung surgery, the following can be noted. The introduction of Hemoben gel composition into the lung parenchyma in the area of tissue damage to a depth of 5 mm reduced the need for additional manipulations to eliminate these manifestations from 25% (in 36 of 144 patients in the comparison group) to 5.3% (only in 7 of 131 patients in the main group). Thus, the proposed technique does not take much time, is easy to perform, and is not expensive, since on average only 1 vial of Hemoben (1.0 g) is consumed per operation, while it allows increasing the proportion of primary (after performing the main stage of the operation) adequate aero- and hemostasis from 75% to 94.7% ($\chi 2=20,092$; df=1; $p<0.001$).

References

1. Yakubov F., Sadykov R., Niyazmetov S. & Sapaev D. (2023). Improving the method of hemo-and aerostasis in lung surgery using the domestic hemostatic wound coating "Hemoben". International Bulletin of Medical Sciences and Clinical Research, 3(10), 33–40. https://researchcitations.com/index.php/ibmscr/article/view/2778

2. Yakubov F.R., Sapaev D.S., & Niyazmetov S.B. (2023). The treatment of the results of pleural empyema complicated with bronchopleural fistula. Research Journal of Trauma and Disability Studies, 2(4), 241–246. http://journals.academiczone.net/index.php/rjtds/article/view/748

3. Sapaev DS, Yakubov FR, Yakhshiboev SS. Evaluation of the factors influencing the choice of laparoscopic echinococcectomy in liver echinococcosis (LE) and its impact on postoperative outcomes. Exp Parasitol. 2023 May;248:108495. doi: 10.1016/j.exppara.2023.108495. Epub 2023 Mar 5. PMID: 36871791.

4. Рузибаев Р.Ю., Курьязов Б.Н., Сапаев Д.Ш., Якубов Ф.Р., Рузматов П.Ю., & Бабаджанов А.Р. (2019). Современная оценка проблем диагностики и хирургического лечения эхинококкоза. Вестник Национального медико-хирургического Центра им. Н. И. Пирогова, 14 (1), 134-139.

5. Якубов Ф.Р, Сапаев Д.Ш, & Ниязметов С.Н. (2023). Ўпканинг анатомик резекциясидан кейинги асоратлар. Journal of universal science research, 1(5), 10–12. https://doi.org/10.5281/zenodo.7883971