

**AN ANALYSIS OF THE RESULTS OF VIDEO-THORACOSCOPIC
INTERVENTIONS FOR BULLOUS LUNG DISEASE USING VARIOUS METHODS
OF PLEURODESIS**

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Abstract

Bullous emphysema is characterized by the progression of respiratory symptoms and involves a permanent expansion of the airspace in the distal terminal bronchioles due to the destruction of the alveolar sacs, loss of elastic tissue, airway collapse and impaired gas exchange (Hoyert DL 2011; Bertolaccini L, 2017). The pathophysiology of bullous emphysema involves valvular bronchoblocking, which allows air to enter but not exit the cystic space (Guo Y, 2010; Hoyert DL, 2011).

The latest British Society of Thoracic Surgeons (2010) guideline for the treatment of primary spontaneous pneumothorax stated that after the first recurrence, treatment should include surgery (bullectomy followed by a pleural adhesion induction procedure). Therefore, a surgical approach is considered the best treatment to minimize the risk of recurrence in patients who have experienced primary spontaneous pneumothorax (Agarwal R, 2011).

According to Vanucci et al. (2019) Uniportal video-assisted thoracoscopy (Uniportal video-assisted thoracoscopy) is a feasible and safe method for performing bullectomy, with results that are at least comparable to other methods, leading to resolution of symptoms, improved lung function, and improved quality of life (Sakakura N, Mizuno T, 2016).

According to the National Clinical Guidelines and recommendations of the British Thoracic Society (British Thoracic Society), one of the most modern areas of surgical treatment in patients with damage to the pleura is chemical pleurodesis (Teixeira LR, 2013).

As before, the actual problem of modern thoracic surgery is the development of adhesion formation technologies for minimally invasive surgical treatment of complications of bullous lung disease.

Purpose of the Study

to improve the results of video-thoracoscopic surgical interventions for bullous lung disease based on clinical and experimental evaluation of the effectiveness of optimized methods of combined pleurodesis.

Material and Methods

Clinical studies were carried out at the State Institution “RSSPMCS named after academician V.Vakhidov” and the Bukhara Regional Multidisciplinary Medical Center for 2015-2021. The comparison group consisted of 62 patients operated on at the Bukhara Regional Multidisciplinary Medical Center (2015-2021). The main group consisted of 26 patients operated on at the State Institution “RSSPMCS named after academician V.Vakhidov” (2018-2021) and 92 patients operated on in the Bukhara Regional Multidisciplinary Medical Center (2018-2021). In both groups, patients aged 20-44 years prevailed (64.3% in the main group versus 67.7% in the comparison group). The incidence among men was also higher than among women and was representative between the groups (64.3% in the main group versus 61.3% in the comparison group).

The method of combined pleurodesis developed by us includes the use of electrocoagulation of the parietal pleura and the application of the FarGALS solution on the visceral and parietal pleura. This method of pleurodesis induction, which is cheap and easy to use, involves the use of the drug "FarGALS" of domestic production to create pleural adhesions that can cause adhesions at the site of its application. The method is quite efficient [6, 19].

Results of the Study

A comparative analysis was carried out on the condition of conditional separation between the main group, whose patients underwent pleurodesis according to the proposed method, and the comparison group, whose patients underwent pleurodesis according to the most common methods used in modern thoracic surgery.

The average duration of the main parameters for assessing the quality of VTS interventions showed that the duration of the operation in the main group corresponded to 76.4 ± 4.2 minutes, while in the comparison group this indicator corresponded to 96.3 ± 4.7 .

The main complications and their frequency in the immediate postoperative period. In total, there were 18 patients with complications, including 8 patients in the main group and 22 patients from the comparison group. One or more complications may have occurred in one patient. Thus, violation of hemostasis was noted only in 4 (6.5%) patients in the comparison group; prolonged air release was observed in 4 (7.1%) patients in the main group and in 8 (12.9%) patients in the comparison group. An incompletely expanded lung was diagnosed in 2 (3.6%) patients in the main group and in 4 (6.5%) patients in the comparison group; exudative pleurisy was also observed in 2 (3.6%) patients in the main group and in 4 (6.5%)

patients in the comparison group; pleural empyema was noted only in 2 patients (3.2%) in the comparison group. Rethoracoscopy for hemothorax - 2 (3.2%) in the comparison group for hemothorax.

Improving the tactical and technical aspects of VTS interventions for bullous lung disease, taking into account the use of single-port access and the proposed method of chemical pleurodesis, made it possible, by reducing the traumatic factor (without mechanical pleurodesis), to provide a significant reduction in the severity of the manifestation of the local inflammatory process, the overall incidence of complications and the timing of drainage from $5,8 \pm 0.4$ to 4.4 ± 0.2 days and hospital period from 8.1 ± 0.3 to 6.8 ± 0.3 days.

Of interest is the frequency of relapses of bullae rupture in the compared groups. Up to 3 months, there was no recurrence of bullae rupture in any of the compared groups; up to 6 months in 2 (3.6%) patients from the main group and in 2 (3.2%) patients from the comparison group; up to 12 months, relapse was noted only in 2 (3.2%) patients from the comparison group.

Conclusion

The clinical efficacy of the proposed method of chemical pleurodesis in bullous lung disease complicated by rupture has been proven in terms of improving and accelerating postoperative rehabilitation, reducing the incidence of specific complications and relapses of the disease. Also, the technical advantages of carrying out the developed technique of videothoroscopic pleurodesis in terms of simplifying and reducing the operation time, as well as the clinical significance of the drug effect on the pleural cavity in terms of manifestations of the inflammatory process and antibacterial effect are determined.