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Title: The concept of prevention of postoperative respiratory complications in lung surgery

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Body: Objectives. Disciform atelectases can be a predictor of a severe postoperative respiratory complications. The aim of the study was to elaborate a set of measures aimed at prevention of these complications in patients subjected to operations on the lungs. Materials and methods. We compared two comparable (in terms of surgery, comorbidities, age) groups of patients underwent lung resection. Two modes of ventilation were used during the operation. In group I (n = 313) ventilation regimen was CMV, standard techniques were used to create expiratory training with PEEP 2). In group II (n = 310) high frequency jet ventilation (HFJV) was carried out (VT = 2 ml • kg-1; f = 100 min-1; I: E = 1:2). In the postoperative period in group I traditional ventilation was conducted. In group II non-invasive mechanical ventilation (Noninvasive HFJV) was used in Continuous Positive Airway Pressure mode (VT = 2 ml • kg-1; f = 300 min-1; I: E = 1:1), inspiratory training was applied. Chest radiograph was undertaken next day after surgery. Results. In Group II, compared with the group I reduction in the incidence of disciform atelectases was noted in first two days after surgery by 3.4 times. Conclusion. On the base of the results obtained we formulated the concept of prevention postoperative respiratory complications after lung resections, which is as follows: 1.Intraoperative - conducting HFJV mode VPN, 2. On the first day after surgery, x-ray control to detect the beginning of the disciform atelectases 3. Holding in the immediate postoperative period of non-invasive mechanical ventilation in mode CPAPHF 4. In the delayed postoperative period breathing exercise to improve the expanding of the lungs.