[2009] 18AP2-4 Postoperative respiratory complications after sevoflurane in O₂: N₂O or sevoflurane in O₂: Air anaesthesia for major abdominal cancer surgery

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Background and Goal of Study: An aim of the study was to find out the incidence of postoperative respiratory complications in abdominal cancer patients undergoing elective surgery, risk factors and correlation with type of anesthesia. We hypothesized that patients ventilated with O₂:air will have less pulmonary complications.

Materials and Methods: 54 elective abdominal cancer patients (37 men, 20 women) ASA 1-4 without present respiratory infection were randomly divided into two groups: balanced sevoflurane anaesthesia in O₂: air (Group A, n = 27, mean age 67.8 years, BMI 30.7) and balanced anaesthesia with O₂:N₂O (group B, n = 27, 64.2 years, BMI 26.8). A lung auscultation, CRP and WBC were done preoperatively, on the 2nd and 4th postoperative day. Outcomes were respiratory failure requiring mechanical ventilation, pneumonia and/or atelectasis, dysphonia and postoperative congestive heart failure. Postoperative pneumonia was confirmed by presence of subjective symptoms and/or abnormal findings on lung examination, and two of following: fever, leukocytosis or high CRP, and positive chest radiograms. Preoperative nasopharyngeal smears and postoperative tracheal aspirates were taken in all patients. Data were analyzed by Man-Whitney and chi-square tests.

Results and Discussion: Demographic data did not differ between study groups. The postoperative pneumonia was registered in three patients in A and four in B group, one patient in both groups required prolonged mechanical ventilation, whereas dysphonia was registered in two patients in A and three in group B. Postoperative congestive heart failure with hypercapnea was registered in three patients in group A and 4 in group B. Subjective symptoms and productive cough without clinical and laboratory signs of respiratory infections were find in 1 patient in group A and two in group B. An overall incidence of all respiratory complications was 11/ 27 (40.7%) in group A and 15/27 (55%) in group B (ns, p > 0.05). Nasopharyngeal smears and or postoperative tracheal aspirates were positive for pathogens in 7 patients in group A and 9 in group B (ns, p > 0.05). Risk factors for positive bacterial isolates were BMI >30 and age >68, whereas risk factors for congestive heart failure were age > 75, BMI ≥34 and ASA status ≥3 (p < 0.05).

Conclusion(s): Type of anaesthesia did not influence postoperative patient respiratory outcome. Advanced age, higher BMI and ASA status are risk factors for both postoperative respiratory complications and positive pathogen isolates.
