



correlation between concentration of these cytokines in pleural fluid and a number of resected mediastinal lymph nodes was found (for IL-6: Spearman test:  $r=-0.723$ ;  $p<0.001$ ; for IL-1ra:  $r=-0.768$ ;  $p<0.001$ ). Number of “positive” N2 lymph nodes did not correlate with concentration of IL-1ra and IL-6 in pleural fluid.

**Conclusions:** Systematic lymphadenectomy of the right mediastinum results in decrease of peripheral blood lymphocytes. The number of resected mediastinal lymph nodes negatively correlates with concentration of IL-6 and IL-1ra in pleural fluid on postoperative day 1, regardless the pathological status of these lymph nodes.

**P3-263 NSCLC: Surgery Posters, Wed, Sept 5 – Thur, Sept 6**

**Interleukin 6 and interleukin 1 receptor antagonist as early markers of complications after lung cancer surgery**

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**Objectives:** To assess changes of interleukin 6 (IL-6) and interleukin 1 receptor antagonist (IL-1ra) in serum, sputum and pleural fluid of patients operated on due to lung cancer.

**Methods:** 38 patients treated with lobectomy or pneumonectomy, including 15 with complications and 23 without complications were analyzed. Serum IL-6 and IL-1ra concentration was measured before, at the end of surgery, and on postoperative day 1, 3, and 7 by ELISA test. Concentration of IL-6 and IL-1ra was also measured in sputum at the end of surgery and in drained pleural fluid on postoperative day 1.

**Results:** In the entire group, serum concentrations of IL-6 and IL-1ra were significantly elevated after surgery (for IL-6: 6.38 (range: 3.33-16.9) vs. 73.89 (30.9-196.8); 211.9 (141.6-344.65); 95 (53.4-192.6) and 34.4 (16-61.99) pg/mL; for IL-1ra: 468.75 (271.75-568.2) vs. 996 (457.5-1641.5); 1260 (796.5-1899.5); 1144.6 (770.2-1878.5) and 913.1 (431.5-1712.5) pg/mL). No significant differences of serum concentrations of IL-6 and IL-1ra between patients with and without complications were found. Patients with complications had higher concentration of IL-6 in drained fluid (90048 (33490-94768) vs. 6554.4 (2003-20636) pg/mL;  $p=0.00006$ ) and in sputum (3509.4 (2434-14168) vs. 367.6

(245.8-1096) pg/mL,  $p=0.02$ ). Patients with complications had higher concentration of IL-1ra in drained fluid (67908 (52638-106694) vs. 16950 (16050-45470) pg/mL;  $p=0.00007$ ) and in sputum (80109 (52289-212459) vs. 11816.3 (5854-30511.9) pg/mL,  $p=0.02$ ). On day 1 after surgery significant correlation between serum and drained fluid concentration for IL-6 as well as for IL-1ra were observed (Spearman test for IL-6:  $r=0.47$ ;  $p=0.02$ ; for IL-1ra:  $r=0.48$ ;  $p=0.02$ ) Logistic regression analysis showed that increase of concentration of IL-6 in pleural fluid by 1000 pg/mL results in 3% increase of risk of complications ( $p=0.0008$ ). Logistic regression analysis showed that increase of IL-1ra in pleural fluid by 10000 pg/mL results in 21% increase of risk of complications ( $p=0.03$ ). Results of multivariate analysis confirmed that concentrations of IL-6 and IL-1ra in pleural fluid on postoperative day 1 are independent risk factors of development of postoperative complications (for IL-6: OR=1.029; CI=1.002-1.058;  $p=0.036$ ; for IL-1ra: OR=1.024; CI=1.000-1.049;  $p=0.046$ ).

**Conclusions:** Elevated serum IL-6 and IL-1ra concentrations accompany developed postoperative complications. Elevated concentration of IL-6 and IL-1ra in sputum, as well as elevated concentration of IL-6 and IL-1ra in drained pleural fluid on postoperative day 1 are promising early markers of postoperative complications.

**P3-264 NSCLC: Surgery Posters, Wed, Sept 5 – Thur, Sept 6**

**How should we deal with lung cancer surgery for octogenarian patients?**

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**Objective:** With an extension of the average length of life, physicians are more often performing lung cancer surgery on the very elderly (patients more than 80 years old, or octogenarians). Our objective was to investigate potential problems from a postoperative course and review actions to be taken for better results.

**Subjects and Methods:** From 1998 to 2006, there were 30 octogenarians (5.5%) of clinical stage 1 and stage 2 among 543 patients who were operated on for lung cancer. There were 22 males and 8 females; 24 patients were aged from 80 to 82 years old, 3 patients were from 83 to 85 years old and 3 patients were over 85 years old. Fourteen patients were heavy smokers and the smoking index was between 400 and 2400 (mean±S.D. 1140±590). The operative methods were one pneumonectomy, 22 lobectomies, 2 segmental resections and 5 partial resections. The pathological findings showed 8 cases of squamous cell carcinoma, 20 of adenocarcinoma and 2 of LCNEC, and their pathological stages were 22 patients of stage 1, 4 of stage 2 and 4 of stage 3. Twenty-seven patients (90%) had an underlying disease, and almost all of those were circulatory system diseases (17 patients). Respiratory rehabilitation was performed in 21 patients. We analyzed their postoperative complications, quality of life, survival period, and discussed the problems with lung surgery for octogenarian patients.

**Results:** 1) Postoperative acute phase progress: All patients could get out of bed at an early postoperative day; 24 patients could walk within 2 days, and 6 patients between 2 days and 5 days. As for the postoperative complications, 6 patients had a cardiac arrhythmia, one patient had difficulty in mucus expectoration, and 5 patients had postoperative disorientation (17%), among which 2 patients fell from the bed in the night. All of the patients recovered well and were discharged from the hospital, but one patient died from pneumonia within 3 months after