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Title: Chemokines CXCL12 and CCL21 may contribute to the development of lung cancer in COPD patients

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Body: It has been established that patients with the chronic obstructive pulmonary disease (COPD) develop lung cancer 4-6 times more frequently, albeit the mechanism of this effect is poorly explored. In this study we examined the level of two chemokines, CXCL12 and CCL12 which are involved in lung cancer cell progression (and whose receptors are present at the surface of lung cancer cells) in serum samples obtained from patients with COPD (n=92) and lung cancer (n=22) as well as in serum from healthy volunteers (n=44). The measurements were conducted using specific Duo Set ELISA kits (R&D) and compared with two-way ANOVA. The results showed that the level of both cytokines in COPD and lung cancer patients were markedly higher compared with the control group. At the same time, the reciprocal relation of these two chemokines in COPD and cancer groups were different. Namely, the level of CXCL12 was significantly higher in COPD patients than in the lung cancer ones ($P<0.05$) (figure 1) whereas the level of CCL21 was higher in patients with malignancy ($P<0.05$) (figure 2). These preliminary data may suggest that altered production of chemokines CXCL12 and CCL21 may be an element linking COPD with the development of lung cancer. Further studies are needed to explore an exact source of both cytokines as well as the processes which are affected by their increased production.