Levels of chemokines/chemokine receptors mRNA and cytokine production in BALF and blood in patients with COPD

Kirill Sysoev
I.P. Pavlov State Medical University, Russia

COPD – is a widespread inflammatory disease which known forth reason to mortality worldwide. Pathogenesis of COPD is still unclear. Chemokines and cytokines are indicated mediate inflammatory response. Chemokine receptors are intriguing point of COPD study via local and systemic immune disorders which chronic inflammation leads. In present study was assessed mRNA expression of eotaxin, eotaxin-2, IL-8, MIP-1α, MIP-1β, RANTES, CCR1, CCR3, CCR5, CXCR1 and CXCR2 in BAL and peripheral blood, after that, we measured values of IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, IFN-γ and TNF-α in plasma and BALF in 20 COPD patients. For control BAL, whole blood and plasma of 8 nonsmoking individuals were used. We assessed mRNA expression semi-quantitatively thereby cytokine values were measured by multiplex analysis. In BALF of COPD patients mRNA values of eotaxin-2, IL-8, CXCR1, and CXCR2 were significantly higher than in control (p<0.05). Peripheral blood mRNA expression of IL-8 and MIP-1β was increased meanwhile MIP-1α, CCR1, CCR3, CCR5, CXCR1, and CXCR2 gene expression was significantly lower in COPD patients cohort (p<0.05). In COPD patients IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, IFN-γ, and TNF-α plasma levels were elevated (p<0.001) furthermore IL-2, IL-4, IL-8, IL-10, GM-CSF, and TNF-α in lavage of COPD patients were higher than in control (p<0.05). Chemokines and chemokine receptors mRNA expression likewise cytokines levels locally and systemically depended on clinical features of COPD.

Biography

Kirill Sysoev has completed his Ph.D at the age of 27 years from Center for Emergency and Radiation Medicine and postdoctoral studies from I.P.Pavlov State Medical University. He is the senior research fellow of Center for Molecular Medicine, a second organization is founded in Russia for studying in molecular medicine area. He has published more than 15 papers in Russian journals and serving as an expert in cytokine and chemokine researches.

ksyssoev@mail.ru