Abstract: Macrophage-derived chemokine (MDC/CCL22) and thymus-and activation-regulated chemokine (TARC/CCL17) are ligands for CC chemokine receptor 4. Recently, TARC has been reported to play a role in the pathogenesis of idiopathic eosinophilic pneumonia (IEP). The purpose of this study was to evaluate the role of MDC in IEP and other interstitial lung diseases (ILDs). MDC and TARC in the bronchoalveolar lavage fluid (BALF) were measured by enzyme-linked immunosorbent assay in patients with ILDs and healthy volunteers (HV). We also examined the expression of MDC mRNA in alveolar macrophages (AM) by real-time quantitative reverse transcriptase-polymerase chain reaction. Both MDC and TARC were detected only in BALF obtained from IEP patients. The concentration of MDC was higher than that of TARC in all cases. The level of MDC in IEP correlated with that of TARC. AM from IEP patients expressed a significantly higher amount of MDC than that from HV at the levels of protein and mRNA. MDC in BALF from IEP dramatically decreased when patients achieved remission. These findings suggest that MDC, in addition to TARC, might be involved in the pathogenesis of IEP, and AM play a role in the elevation of MDC in IEP. J. Med. Invest. 52: 85-92, February, 2005

Keywords: bronchoalveolar lavage fluid, macrophage-derived chemokine, thymus-and activation-regulated chemokine, eosinophilic pneumonia, alveolar macrophages, interstitial lung diseases
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Bronchoalveolar lavage

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Measurement of MDC and TARC

Harvesting of the supernatant of AM

Subjects

Macroautolysis and the removal of cellular debris from the lavage fluid were confirmed by

Measurement of MDC and TARC

Harvesting of the supernatant of AM
Preparation of total RNA of AM

Real-time quantitative PCR analysis for MDC

Statistical analysis

Characteristics of BALF of patients with various ILDs

The concentration of MDC and TARC in BALF of patients with various ILDs
Comparison of the level of MDC and TARC in BALF of patients with IEP

![Graph showing MDC and TARC levels in different conditions.]
Increased production of MDC by AM from patients with IEP

Clinical relevance of MDC level in BALF of patients with IEP

The Journal of Medical Investigation Vol. 52 February 2005