AUTOIMMUNE CONNECTIVE TISSUE DISEASES

CYTOKINES AND CHEMOKINES IN DERMATOMYOSITIS

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Background: Dermatomyositis (DM) is an autoimmune disease affecting primarily skin, muscle and lung. Dysregulations of cytokines and chemokines are commonly found in inflammatory disorders.

Objective: To investigate the association between serum cytokines, chemokines and clinical severity, especially cutaneous lesions and interstitial lung disease (ILD) in DM and clinically amyopathic dermatomyositis (CADM) patients.

Materials and Methods: Clinical features, laboratory findings and serum of 40 DM/CADM patients were collected and analyzed. Serum cytokines/chemokines were measured by enzyme-linked immunosorbent assay (ELISA) or cytometric beads array (CBA). Multiple unpaired t test was performed to compare cytokines/chemokines in DM patients and healthy controls. Correlation of serum cytokines/chemokines with disease severity were evaluated by Spearman's rank correlation test.

Results: Serum interferon-β (IFN-β) (rs=0.368, P=0.019, 95%CI [0.078, 0.616]) and CXCL-10 (rs=0.318, P=0.045, 95%CI [-0.004, 0.569]) were significantly correlated with the Cutaneous Dermatomyositis Disease Area and Severity Index (CDASI) activity score in the subset of DM/CADM. Serum levels of IL-6, IL-10, IL-18 and IFN-β were significantly higher in the patients with acute/subacute interstitial pneumonia (A/SIP) than the subset without A/SIP (P<0.05). IL-6 (rs=0.536, P<0.001, 95%CI [0.270, 0.724]) as well as IL-18 concentration (rs=0.464, P=0.003, 95%CI [0.212, 0.652]) were significantly correlated with serum level of anti-MDA5 antibody.

Conclusions:Serum levels of IFN-β and CXCL-10 may be useful biomarkers for assessing cutaneous disease activity in DM/CADM. In addition, serum IL-6, IL-10, IL-18 and IFN-β were highly correlated with the occurrence of A/SIP. These cytokines may play a role in the

pathogenesis of DM/CADM.