Biologic DMARD May Be Insufficient to Inhibit CCL20 Pathway in Rheumatoid Arthritis

To the Editor:

Kawashiri, et al recently reported that biologic disease-modifying antirheumatic drugs (DMARD; i.e., infliximab, etanercept, and tocilizumab) may have therapeutic efficacy by inhibiting CCL20 production in rheumatoid synovium. Indeed, serum CCL20 concentration in patients with rheumatoid arthritis (RA) was clearly decreased by treatment with biologic DMARD. As well, DMARD also can inhibit the production of CCL20 from fibroblast-like synovial cells (FLS) in vitro. However, the precise molecular mechanism of action remains unclear, and available evidence suggests that biologic DMARD may be of low efficiency for controlling the CCL20 pathway. For example, Kawashiri, et al also reported that CCL20 production can be significantly stimulated by interleukin 17 (IL-17)

Previous studies revealed that serum IL-17 levels in patients with RA did not show a significant change after infliximab and etanercept treatment. Moreover, current data have identified that gene-risk loci occur in CCR6 (a surface marker for Th17 cells and also as a receptor for CCL20) and macrophage inflammatory protein-3 alpha in patients with rheumatoid arthritis. Genome-wide association study meta-analysis identifies seven new rheumatoid arthritis risk loci. Kochi Y, et al. A regulatory variant in CCR6 is associated with rheumatoid arthritis susceptibility. Nat Genet 2010;42:515-9.

REFERENCES