Interstitial lung disease is associated to infections of lower respiratory tract in immunocompromised rheumatoid arthritis patients

Sirs,

Rheumatoid arthritis (RA) is a chronic inflammatory disease characterised by synovial joint swelling and tenderness (1, 2). A high frequency of infections complicating RA has been reported during the last years; in particular, septic arthritis and pulmonary infections (3).

The aim of the study was to investigate the possible association between demographic, serological and clinical RA features and the lower respiratory tract (LRT) infections.

The study retrospectively evaluated clinical data, including comorbidities and different treatments of 563 RA patients satisfying the 2010 ACR/EULAR classification criteria (female/male ratio 3.43, mean age 64.8±13.6SD years, mean disease duration 11.5±9.4SD years) (1).

During a mean follow-up of 138.9±131.3SD months, we observed 47 patients with at least one episode of LRT infection.

The presence of RA-associated interstitial lung disease (ILD) (p=0.016), steroids (p=0.001), and biological disease-modifying anti-rheumatic drugs (b-DMARDs) (p=0.01) were significantly associated to infections. All variables remained independently associated to infections of LRT also at logistic regression analysis; while no differences were observed with regard to the kind of the b-DMARDs, namely anti-tumour necrosis factors-α (anti-TNF-α), methotrexate, and corticosteroids was significantly more frequently recorded in RA-ILD patients with infections compared to those without LRT infections (81.8% vs. 13.6% of patients; p=0.001).

A radiological ILD pattern of usual interstitial pneumonia (UIP) was not associated to infections inducing autoimmunity in rheumatoid arthritis (1, 2). Of interest, a combination and doses (corticosteroids, traditional, and b-DMARDs) on both arthritis and ILD (5, 6, 9, 10) remains to be further investigated, its presence may influence the choice of systemic therapies (7). It is still controversial if some DMARDs, such as methotrexate, might induce the ILD occurrence or progression (6, 8). On the other hand, current therapeutic approach for RA-ILD is still under debate, in particular, the possible beneficial effects of different treatments on both joint and lung involvement (5, 9).

Currently, no controlled studies and doses (corticosteroids, traditional, and b-DMARDs) on individual treatments between demographic, serological and clinical features and LRT infections in this sub-group of patients. Among 33/563 (5.9%) patients with ILD, diagnosed on the basis of high-resolution computerized tomography (HRCT) (female/male ratio 2/1, mean age 71.8±10.6 years, mean disease duration 16.1±13.0 years), only b-DMARDs were associated to infections of LRT (p=0.002). Of interest, a combination therapy with b-DMARDs, methotrexate, and corticosteroids was significantly more frequently recorded in RA-ILD patients with infections compared to those without LRT infections (81.8% vs. 13.6% of patients; p=0.001).

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Although the pathogenesis of ILD it is necessary to balance the control of joint inflammation with the risk of drug-related LRT infections; this latter could be significantly reduced by tailoring both drug combination and doses (corticosteroids, traditional, and b-DMARDs) on individual patients.

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Competing interests: none declared.

References

5. FISCHER A, COSGROVE GP: Interstitial lung abnormalities in rheumatoid arthritis are common and important. Chest 2014; 146: 8-10.