

ORIGINAL ARTICLE

## Tuberculosis in patients with rheumatoid arthritis and screening by ELISPOT technique

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### Abstract

**Purpose:** To characterize clinical features of tuberculosis in rheumatoid arthritis (RA) patients receiving conventional anti-rheumatic therapies and to establish an immunological diagnostic procedure for tuberculosis using the ELISPOT.

**Patients and Methods:** Clinical features of 12 RA patients complicated with tuberculosis were retrospectively reviewed on the medical records. We also studied 3 patients with acquired immunodeficiency syndrome (AIDS) and active tuberculosis, and 2 RA patients who were suspicious of tuberculosis. *Mycobacterium tuberculosis* antigen specific interferon-gamma secreting cells in peripheral blood mononuclear cells were determined by ELISPOT technique.

**Results:** Lymphocytopenia was evident in RA patients complicated with pulmonary tuberculosis. Two patients had disseminated disease, while two had extrapulmonary lesions. One died of complicated bacterial pneumonia. The ELISPOT technique detected *Mycobacterium tuberculosis* antigen specific immune response even in AIDS patients with active tuberculosis who had very low counts of circulating CD4+ cells and a RA patient with active tuberculosis, whereas the response was not found in two RA patients who were clinically suspicious of tuberculosis during infliximab therapy.

**Conclusions:** Anti-rheumatic therapy associated lymphocytopenia is involved in the development of tuberculosis in patients with RA. The ELISPOT technique to detect the *Mycobacterium tuberculosis* antigen specific IFN-gamma secretion is useful for the screening and monitoring of tuberculosis in RA patients, especially those receiving biologics.

**Key words:** tuberculosis, rheumatoid arthritis, biologics, ELISPOT