Tuberculin conversion in patients with autoimmune arthropathies receiving biologic therapy

Cerda Osvaldo Luis[1], Correa María de los Angeles[1], Granel Amelia[2], Marcos Ana[2], Giraldo Claudia[3], Rillo Oscar[3], Citera Gustavo[1].
Instituto de Rehabilitación Psicofísica[1], Bs. As. Hospital San Roque de Gonnet[2], La Plata. Hospital General de Agudos Enrique Tornú[3], Bs. As. Argentina.

Background/Purpose: Patients receiving biologic DMARDs are at increase risk of developing tuberculosis (TB). Tuberculosis skin test (TST) is recommended to screen for TB infection prior starting biologic DMARDs. However, TST during treatment with biologic DMARDs is not routinely assessed. *Objective:* To investigate the frequency of TST conversion in patients receiving biologic DMARDs who initially had a negative result.
Methods: Patients with Rheumatoid Arthritis (RA), Juvenile Idiopathic Arthritis (JIA) and Spondyloarthritis (SPA) under treatment with anti-TNFα, Tocilizumab and/or Abatacept and who had a previous negative TST were included. A second TST was performed in all patients within a period of 2 months to 2 years after of the first TST. TST convertion was defined as a variation greater than 5 mm between the two tests. Sociodemographic and clinical data were recorded. Moreover, presence of comorbidities as alcoholism, diabetes (DM), malnutrition, poverty and overcrowding, previous infection, or contact with TB and concomitant treatment (steroids, DMARDs and biologic treatment) were also taken into account for the analysis. Chi^2 test, Mann Whitney U test and logistic regression analysis were performed.
Results: Eighty-five patients were included, 78.8% females, mean age 51.76±11.9. 74.1% had diagnosis of RA, 16.5% Psoriatic arthritis, 4.7% JIA, and 4.7% AS. 75.3% were receiving anti-TNF treatment, 15.3% tocilizumab, and 9.4% abatacept. 84.7% were receiving concomitant MTX, 21.2% leflunomide and 18.8% were on high doses of steroids. 12, 9% lived in overcrowded conditions, 10.6% had controlled DM, 5.9% had TB (complete treatment), and 2.4% reported having had contact with TB patients. Other risk factors were infrequent. TST conversion was observed in 9.4% (8 patients) being more common in males 62.5% vs. females 37.5% (p=0.009) and among those with longer mean disease duration 226±109 month in TST conversion patients vs. 130±105 month in TST negative patients (p=0.017). These results persisted even after adjusting for confounders. No association was observed with treatments and comorbid conditions. All patients with TST conversion received prophylactic isoniazid treatment, and one patient developed active TB and received appropiated treatment.
Conclusion: In patients receiving biologic DMARDs, TST conversion rate was 9.4% and was more frequent in males and in those with longer disease duration. No association was observed between TST conversion and underlying rheumatic disease, presence of comorbidities or treatments used.