OBJECTIVES: Since obesity has been associated with higher inflammatory burden and worse response to therapy in patients with chronic inflammatory joint diseases (CIJDs), we aimed to confirm the potential association between body mass index (BMI) and disease activity in a large series of patients with CIJDs included in the Spanish CARRhoa registry in rheumatology (CARRa) registry.

Methods: Baseline data assessment of patients included from the CARRa project, a 10-year prospective study of patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) attending outpatient rheumatology clinics from 67 Spanish hospitals. Obesity was defined when BMI (kg/m²) was ≥30 according to the WHO criteria. Scores used to evaluate disease activity were DAS28 in RA, BASDAI in AS, and modified DAS for PsA.

Results: Data from 2,234 patients (775 RA, 738 AS and 721 PsA) were assessed. The mean±SD BMI at the baseline visit were: 26.9±4.8 in RA, 27.4±4.4 in AS and 28.2±4.7 in PsA. Multivariate analyses showed a positive association between BMI and disease activity in patients with RA (β-coefficient: 0.029; 95% CI: 0.01-0.05; p=0.007) and in those with PsA (β-coefficient: 0.036; 95% CI: 0.015-0.058; p=0.001). By contrast, there was no significant association between BMI and disease activity in patients with AS (β-coefficient: 0.001; 95% CI: -0.026-0.03; p=0.928).

In patients with RA, female gender (β-coefficient: 0.546; 95% CI: 0.316-0.775; p<0.001) and rheumatoid factor status (seropositivity for RF) (β-coefficient: 0.328; 95% CI: 0.106-0.549; p=0.004) also showed a positive association with disease activity, while physical activity revealed a negative association with disease activity (β-coefficient: -0.280; 95% CI: -0.479-0.081; p=0.006).

In patients with PsA, female gender (β-coefficient: 0.021; 95% CI: -0.002-0.043; p=0.095), age (β-coefficient: -0.025; 95% CI: -0.199-0.313; p<0.001) and enthesitis (β-coefficient: 0.256; 95% CI: 0.199-0.313; p<0.001) were also positively associated with disease activity in PsA.

As observed in RA and PsA, female gender was also associated with disease activity patients with AS (β-coefficient: 0.565; 95% CI: 0.299-0.832; p<0.001).

Conclusion: BMI is associated with disease activity in RA and PsA but not in AS. Since obesity is a potentially modifiable factor, disease activity was associated with female gender and RF status in RA and with Psoriasis Area Severity Index and enthesitis in PsA. Adequate control over body weight may improve the outcome of patients with CIJDs and, therefore, weight control should be included in the strategy of management of these patients.

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