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INFECTIONS IN RHEUMATIC PATIENTS UNDER BIOLOGICAL TREATMENT: THE DETERMINING ROLE OF CORTICOTHERAPY

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BACKGROUND

Little is known about the infectious risk compared between different bDMARDs. The aim of this study was to evaluate the incidence and type of infections in patients under bDMARDs to investigate a possible risk differential for severe infection between bDMARDs and to determine possible predictors.

MATERIALS AND METHODS

Retrospective single-center study that included all patients registered at a national database with RA, PsA and SpA, with at least one report of infection under bDMARD as an adverse event until August 2019. Infection was considered serious whenever it motivated hospitalization. Logistic regression analysis was used to assess predictors of severe infection.

RESULTS

One hundred and twenty-one infections were included, 98 (81.0%) of which in females, aged 55.1 ± 13.5 years [88 (72.7%) in RA patients, 20 (16.5%) with SpA and 13 (10.7%) with PsA]. At the time of infection, 84 (67.7%) patients were on glucocorticoids, with a median dose of prednisolone equivalents of 5 (5-7.5) mg/day. Twenty-eight (23.1%) were on etanercept, 26 (21.5%) rituximab (RTX), 23 (19.0%) adalimumab (ADA), 17 (14.0%) tocilizumab (TCZ), 13 (10.7%) golimumab, 10 (8.3%) infliximab, 3 (2.3%) certolizumab and 1 (0.8%) abatacept. In 52 cases (43.0%) the infection was considered serious.

There was a significant association between the use of glucocorticoids and serious infections ($p < 0.001$), with a clear dose-dependent effect ($p = 0.006$). Exposure to glucocorticoids was higher in patients under TCZ ($p = 0.017$) and RTX ($p = 0.004$), and for those under TCZ the median dose was higher than that of the remaining bDMARDs ($p = 0.003$). Interestingly, after infection, the switch frequency was higher in those under TCZ compared to other bDMARDs (47.1% vs 12.5%, $p = 0.002$). Being a smoker was associated with severe infection (OR = 27.66, 95% CI = 2.76-277.09), as were the presence of pulmonary pathology (OR = 19.36, 95% CI = 1.70-220, 98) and, mainly, the current use of glucocorticoids (OR = 443.59, 95% CI = 13.09-15031.23). Adjusting for these factors, it was found that no particular bDMARD was associated with the occurrence of serious infections, with ADA (OR 0.01; 95% CI 0.01-0.34) and TCZ (OR 0.04; 95% CI 0.01-0.84) conferring less risk of serious infection.

CONCLUSION

The risk of serious infection seems to be determined mainly by corticosteroid therapy, in a dose-dependent manner, with no differences between bDMARD. To decrease infectious risk, the authors emphasize the importance of using the lowest possible dose of glucocorticoids and, whenever possible, discontinuing them.