13. Predictors of ACR/EULAR Boolean and SDAI Remission in Patients with Established Rheumatoid Arthritis Treated with Anti-TNF: An Analysis from the Prospective, Observational Registry, BioTRAC.

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Background/Purpose: Early achievement of remission is associated with improved clinical, functional and radiographic outcomes. Recent recommendations of the Canadian Rheumatology Association dictate that treatment target should be remission or, when not possible, low disease activity. The aim of this analysis is to define the predictive factors of time to disease remission in established rheumatoid arthritis (RA) patients treated with infliximab.

Methods: BioTRAC is an ongoing, prospective registry of patients initiating treatment for RA, ankylosing spondylitis (AS), or psoriatic arthritis (PsA) with infliximab or golimumab as first biologics or after having been treated with a biologic for <6 months. RA patients treated with infliximab who were enrolled between 2002-2012 and had ≥1 follow-up assessment were included. Remission was defined according to the ACR/EULAR Boolean criteria (TJC28≤1, SJC28≤1, CRP≤1 mg/dL, and PtGA≤1) or CDAI≤2.8. Independent predictors of remission were identified by multivariate Cox regression considering as potential confounders parameters showing a statistical trend (P<0.150) in univariate analyses.

Results: A total of 671 patients were included of whom 494 (73.6%) were female. At baseline, mean (SD) age was 56.0 (13.5) years and mean (SD) disease duration was 10.3 (10.1) years. Median time to CDAI and Boolean remission was 47.3 and 54.1 months, respectively. In univariate analysis, the following factors showed a statistical trend in their association with longer time to CDAI remission: earlier enrolment period (P=0.117), increased age (P=0.070), longer disease duration (P=0.008), female gender (P=0.143), and increased baseline disease activity as indicated by TJC28 (P<0.001), SJC28 (P<0.001), morning stiffness (P=0.003), pain (P<0.001), PtGA (P<0.001), MDGA (P<0.001), HAQ-DI (P<0.001), and CDAI (P<0.001). Rheumatoid factor (RF) status, number of previous DMARDs, and initial (first 6 months) treatment with DMARD(s), NSAID(s) or steroid(s) did not predict achievement of remission. In multivariate analysis, baseline CDAI [HR (95%CI): 0.97 (0.96,0.98); P<0.001] and disease duration [0.98 (0.97,1.00); P=0.018] were identified as independent predictors of time to CDAI remission. Similarly, multivariate survival analysis showed that increased disease duration [0.98 (0.96,1.00); P=0.047] and increased pain [0.98 (0.98,0.99); P<0.001] at baseline were associated with a lower chance of achieving ACR/EULAR Boolean remission.

Conclusion: Upon adjusting for potential confounders, increased disease duration before anti-TNF initiation is an independent predictor of longer time to remission. The results of these real-world Canadian data support findings that earlier initiation of anti-TNF agents may be associated with increased remission rates when stringent definitions of remission are considered.