Questioning the usefulness of CDAI as a measure of disease activity in a Treat To Target Programme.

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Background

Rheumatoid arthritis (RA) is a chronic autoimmune condition which if not treated appropriately and in timely manner can lead to joint destruction and long term disability. About 45000 people in Ireland are living with RA. In RA, the concept of T2T is recommended as the appropriate method to manage Early Arthritis. It has shown promising results to achieve clinical remission (CR) or low disease activity (LDA).

Objectives

The objective of this study was to investigate the potential to achieve remission or LDA according to the Clinical Disease Activity Index (CDAI) for RA, during treatment with Disease-Modifying Anti-Rheumatic Drugs (DMARDs) and Biologics, and the factors that affect the remission/LDA outcome.

Methods

We performed an observational prospective study on patients' data available from our Early Arthritis Cohort. All patients with newly diagnosed RA who met the American College of Rheumatology (ACR) criteria were enrolled. Patients are managed by an Advanced Nurse Practitioner (ANP) with consultant supervision. To assess their response to treatment, we used the Clinical Disease Activity Index[3]. Analysis was performed using SPSS.

Results

Out of a total of 459 patients, 353 completed the programme. 217 patients (61.5%) were female and (136) 38.5 % were male. Mean age was 53.98 (SD 14.66). 195 patients were on monotherapy, 40 on combination DMARDs and 115 were on Biologics/Janus Kinase Inhibitors (JAK-Inh). Remission-rates in the monotherapy and combination DMARDs groups were approximately 60%, whilst the remission rate in the Biologics/JAK-Inh group was 41.7%.
Amongst female patients 15.9% had erosions on X-ray at the time of diagnosis whilst the equivalent figure for male patients was 29.6%.

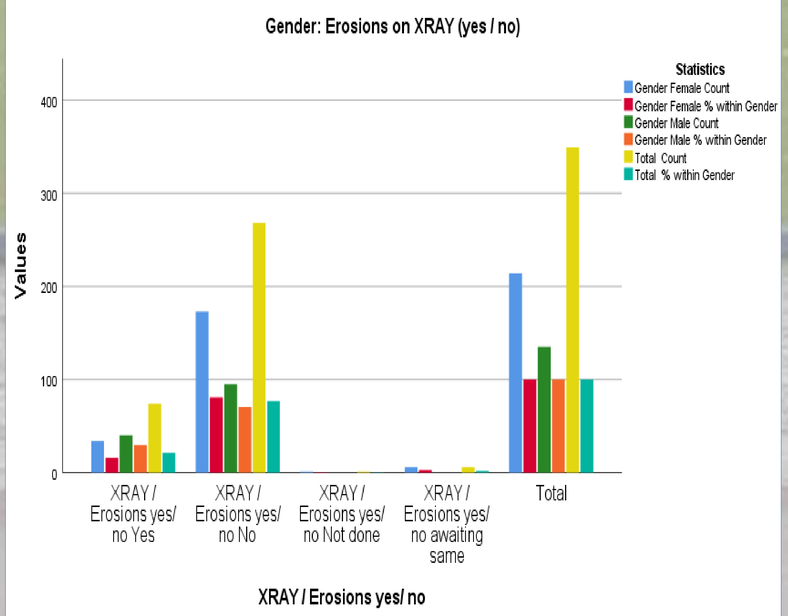

Figure 2. Association between gender and presence of erosions on X-Ray

Final Medication	Remission Count (%)	Non-Remission Count (%)	P-Value*
Monotherapy	118 (60.5%)	77 (39.5%)	
Combination DMARD Therapy	24 (60%)	16 (40%)	
Biologics / JAK Inhibitors	48 (41.7%)	67 (58.3%)	
			0.004
*Pearson Chi-Squared			

Figure 1. Association between final medication regime and outcome

Conclusion

An association between male gender and the likelihood of erosions on X-Ray was observed. In addition an association between final medication and outcome was observed. An increased likelihood of non-remission was noted in patients that required escalation to Biologics/JAKs. A possible explanation for the lower levels of remission seen throughout the groups is the difficulty in achieving remission under the CDAI score as compared to DAS-28.

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