

Do Early Treatment Responses in RA Patients Predict Long-Term Disability?

Summarized by Jon Giles, M.D.

The economic burden of RA is substantial, with direct (medical) and indirect (loss of income) costs in the U.S. estimated at \$8 and \$14 billion per year, respectively. Finances aside, the ability to maintain employment in RA is vital for the maintenance of self-efficacy and psychological well-being. Though previous studies have emphasized the overall cost effectiveness of early treatment intervention, the level of response needed to achieve long-term employability has not been established. Here, Puolakka et al (*Arthritis Rheum* 52(1):36, 2005) examine the long-term disability costs related to early treatment responses in patients with early, untreated RA.

Methods Utilizing centralized administrative data from the Finnish social security system, days of sick leave and cumulative compensatory benefits paid for loss of income due to RA-related disability were determined for consenting participants in the FIN-RACo (Finnish Rheumatoid Arthritis Combination Therapy) Trial. In this multicenter, randomized trial, initiated in 1993, 195 DMARD-naïve patients with early RA (disease duration < 2 years) were randomized to treatment with a single initial DMARD (sulfasalazine) vs. combination therapy with sulfasalazine, methotrexate, hydroxychloroquine, and prednisolone. Cumulative disability benefits paid at 5 years of follow-up were compared for patients achieving different levels of clinical treatment response (remission [Group I], ACR50 improvement but less than remission [Group II], ACR20 improvement but less than ACR50 [Group III], and less than ACR20 [Group IV]) at 6 months of treatment (irrespective of treatment group randomization).

Results 159 employed patients were assessed at 6 months. 95 patients had achieved an ACR50 response or better by 6 months, 42 of whom were receiving sulfasalazine monotherapy. Patients achieving Group III responses at 6 months had slightly higher baseline swollen and tender joint counts compared to the other groups. Patients achieving Group IV responses at 6 months were statistically older at baseline (mean age 49 vs. 45 years). The median disease duration at baseline for all four groups was between 6 and 7 months.

	Group I: Remission n = 29	Group II: ACR50 but < remission n = 66	Group III: ACR20 but < ACR50 n = 29	Group IV: < ACR20 n = 35
Median days sick leave – first 6 months	20 (0-72)	48 (0-142)	24 (0-140)	182 (16-182)
Median cumulative disability days per year	0 (0-3)	4 (0-131)	15 (0-170)	337 (27-365)
Mean work disability benefits paid per yr (dollars)	117	2,877	2,873	7,344
Patients with permanent work disability	0 (0%)	15 (23%)	6 (21%)	19 (54%)

Pairwise multiple comparisons showed statistically significant differences in the above outcomes for all groups except Group II compared to Group III. An additional 15 patients not in remission achieved remission by 12 months, none of these patients were permanently work disabled at 5 years. Only 3 patients were able to resume work after > 12 months of continuous work disability.

Conclusion Early clinical treatment response is predictive of future maintenance of work ability in patients with early untreated RA.

Editorial Comment These results are striking and highlight the importance of early aggressive disease control in RA, especially considering that the majority of patients in this study had relatively mild disease at baseline which was highly responsive to sulfasalazine monotherapy in a large number of subjects by six months. Though more patients receiving combination therapy achieved remission or a satisfactory response, aggressive therapies were not required to ensure work ability – meaning any regimen capable of ensuring a favorable early treatment response is advisable. However, as it is often difficult to predict which patients will have maximal benefit from less-aggressive treatment regimens, these data might support the use of treatment regimens with the most potential to induce remission (i.e. TNF inhibitors) within the first six months of treatment. A particularly interesting, and unexpected, finding is the lack of impact on permanent disability between ACR20 and ACR50 responses.

The causes of work disability in RA are diverse, and include issues with mobility, manual dexterity, fatigue, depression, and others. Further exploration into the impact of early treatment on each of these factors in the context of subsequent work-related disability is warranted.