



# DISEASE ACTIVITY SCORING: COMPARING PATIENT AND PHYSICIAN GLOBAL ASSESSMENT OF DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS PATIENTS STARTING A FIRST BIOLOGIC AGENT

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## ABSTRACT

**Background/Purpose:** Visual analogue scales (VAS) are routinely used in daily clinical practice and are part of the different composite outcome measures such as the DAS, CDAI and SDAI. Studies often report weak to moderate positive correlations between physician and patient global assessment of disease activity. It is thought that they are driven by different considerations such as pain, fatigue and mental status for patients and more objective measures such as the swollen joint count and acute phase reactants for physicians. We hypothesized that while absolute values of patient and physician global disease activity do not always correlate, changes in these measures may offer a better correlation. To this end, we looked at global evaluation changes before and after introduction of a first biologic agent in patient with RA.

**Methods:** We included patients treated for at least 6 months with a first anti-TNF agent (adalimumab, etanercept or infliximab) starting in January 2005. The patient and physician global assessments of disease activity of RA patients were extracted from the RHUMADATA® clinical database and registry. Pearson correlations coefficients between pre, post and pre-post changes in patient and physician assessments were computed (SAS v 9.13) and compared.

**Results:** The global disease activity scores from 83 patient-physician pairs were available for this analysis. The pre-treatment assessments were made within 0 and 176 days (mean 33 days) of biologic initiation while the post treatment assessments occurred between 182 and 799 days (mean 268 days). The patient and physician pre, post, and pre-minus-post global assessment means and standard deviations are presented below. The pre and post treatment Pearson correlations coefficients between patient and physician assessments are respectively  $r^2=0.34$  ( $p=0.001$ ) and  $r^2=0.19$  ( $p=0.08$ ). The correlation coefficient between patient and physician change in global assessment is 0.15 ( $p=0.19$ ). Disease duration, gender, age and DAS28 scores did not influence the change in MDG. Similar results were observed in the PtG changes except for disease duration where patients with  $\leq 2$  years had smaller changes. The GLM revealed that no factors other than rater (physician or patient) explained the observed differences.

**Conclusion:** While the pretreatment global disease activity assessments showed moderate correlation, the change in these assessments exhibited a weak relationship. Both physicians and patients agree on disease activity improvement although their magnitudes differ. Of the factors explored, only rater (physician or patient) seem to explain these differences.

## INTRODUCTION

Visual analogue scales (VAS) are routinely used in daily clinical practice and are part of the different composite outcome measures such as the DAS, CDAI and SDAI. Studies often report weak to moderate positive correlations between physician and patient global assessment of disease activity. It is thought that they are driven by different considerations such as pain, fatigue and mental status for patients and more objective measures such as the swollen joint count and acute phase reactants for physicians.

## OBJECTIVES

We hypothesized that while absolute values of patient and physician global disease activity do not always correlate, changes in these measures may offer a better correlation. To this end, we looked at global evaluation changes before and after introduction of a first biologic agent in patient with RA.

## METHODS

We included patients treated for at least 6 months with a first anti-TNF agent (adalimumab, etanercept or infliximab) starting in January 2005. The patient and physician global assessments of disease activity of RA patients were extracted from the RHUMADATA® clinical database and registry. Pearson correlations coefficients between pre, post and pre-post changes in patient and physician assessments were computed (SAS v 9.13) and compared.

## BASELINE CHARACTERISTICS

<b>N</b>	83
<b>Mean age (years)</b>	57.7 (12.9)
<b>Disease duration(years)</b>	3.8 (1.6)
<b>% Women</b>	80.3%
<b>HAQ score</b>	1.2 (0.6)
<b>Morning stiffness (min)</b>	90.9 (229.5)
<b>Fatigue(VAS)</b>	4.2 (3.4)
<b>Pain(VAS)</b>	5.5 (2.9)
<b>CRP(mg/L)</b>	15.4 (27.5)
<b>ESR(mm/hr)</b>	25.6 (18.8)
<b>Rheumatoid factor</b>	
<b>NA</b>	8.4%
<b>Negative</b>	27.7%
<b>Positive</b>	63.9%
<b>anti-CCP</b>	
<b>NA</b>	24.1%
<b>Negative</b>	25.3%
<b>Positive</b>	50.6%
<b>Tender joint count (TJC)</b>	8.7 (6.3)
<b>Swollen joint count (SJC)</b>	9.5 (5.2)
<b>DAS28(ESR)</b>	4.6 (1.1)
<b>DAS28(CRP)</b>	4.2 (1.0)
<b>CDAI</b>	28.8 (12.6)
<b>SDAI</b>	31.2 (14.2)

## RESULTS

The global disease activity scores from 83 patient-physician pairs were available for this analysis. The pre-treatment assessments were made within 0 and 176 days (mean 33 days) of biologic initiation while the post treatment assessments occurred between 182 and 799 days (mean 268 days). The patient and physician pre, post, and pre-minus-post global assessment means and standard deviations are presented below. The pre and post treatment Pearson correlations coefficients between patient and physician assessments are respectively  $r^2=0.34$  ( $p=0.001$ ) and  $r^2=0.19$  ( $p=0.08$ ). The correlation coefficient between patient and physician change in global assessment is 0.15 ( $p=0.19$ ). Disease duration, gender, age and DAS28 scores did not influence the change in MDG. Similar results were observed in the PtG changes except for disease duration where patients with  $\leq 2$  years had smaller changes. The GLM revealed that no factors other than rater (physician or patient) explained the observed differences.

### Physician and patient global disease activity assessment

	Physician		Patient		Difference (patient-physician)	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
<b>Pre-treatment</b>	5.27	1.98	5.58	2.96	0.31	2.94
<b>Post-treatment</b>	1.42	1.79	3.79	2.81	2.37	3.02
<b>Change</b>	-3.85	2.31	-1.79	2.95	-	

## CONCLUSIONS

While the pretreatment global disease activity assessments showed moderate correlation, the change in these assessments exhibited a weak relationship. Both physicians and patients agree on disease activity improvement although their magnitudes differ. Of the factors explored, only rater (physician or patient) seem to explain these differences.

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