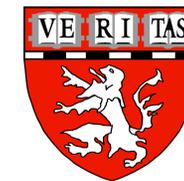


The Role of Objective Measures vs. Patient Reported Outcomes (PROs) as a Reflection of Flares in Patients with RA: Results from the Brigham RA Sequential Study (BRASS)

Vivian Bykerk, MD, Daniel Hal Solomon, MD, MPH, Clifton O Bingham, MD, Michelle Frits, Christine Iannaccone, MPH, Michael Weinblatt MD, Nancy Shadick, MD, MPH.
Division of Rheumatology, Section of Clinical Sciences, Brigham and Women's Hospital, Boston, MA.



Introduction

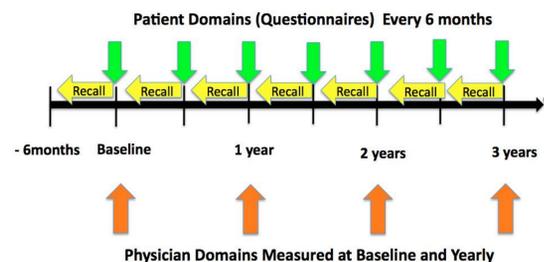
- Worsening of disease activity or RA flare can be severe enough to warrant a change of therapy.
- Little is known about how frequently flares occur in RA or which measures best reflect a flare of RA.

Aims

- To describe frequency of self-reported flares in a population of patients with RA
- To determine which variables best relate to patients' recall of flare in the prior 6 months.

Methods

- Eligible subjects: RA patients enrolled in a prospective single- academic center observational cohort (BRASS)
- RA patients treated according to preference of their rheumatologist
- Patients questioned every 6 months if they'd had a flare of their disease, what the duration was and how the flare was treated



- Variables analyzed included patient reported outcomes (PROs), composite indices of disease activity and laboratory measures
- Statistical Analysis
 - Univariate logistic regression analyses using generalized estimating equations (GEE) were performed to determine possible variables associated with flares over the next 6 months
 - Disease measures with a $p < 0.10$ were included in a multiple logistic regression model using GEE (model 1). Additional multiple logistic regression models were performed with PROs alone (model 2) and with physician measures alone (model 3)

Results

- Of 1095 RA patients, 567 with 3 yrs follow-up reporting at least one flare were included for this analysis
- Variables significantly associated with recall of flare in the multivariate analysis overall, were pain, physician global, tender joint count (TJC), and age

Results

Figure 1. Frequency of Flares

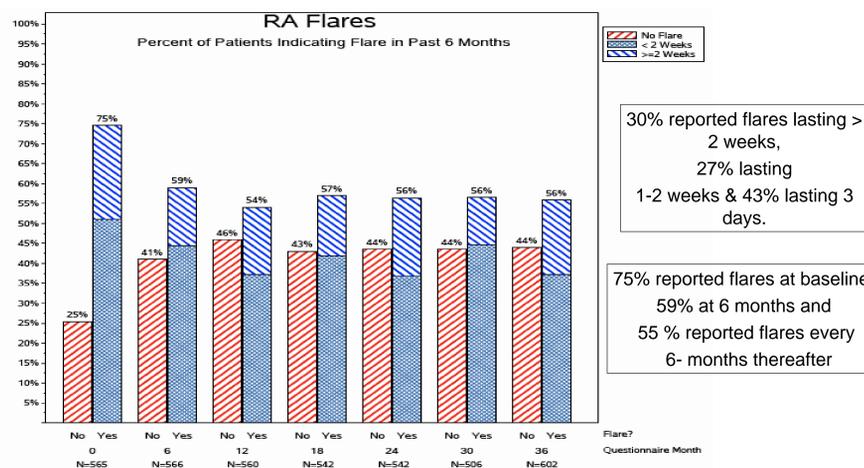


Figure 2. Medication Use in Patients Reporting Flares

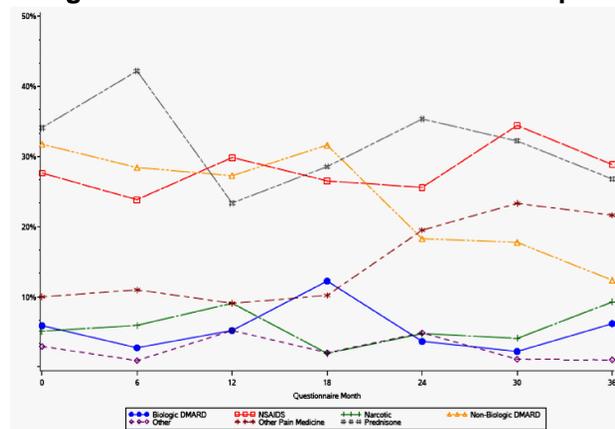


Table 1. Baseline Characteristics –Patients Reporting Flares vs. No Flares

	Flare (SE)		No Flare (SE)		P-Value
Age	56.3	0.6	57.9	1.1	0.1780
Female	85.1	0.02	85.4	0.03	0.9280
Disease Duration (years)	13.9	0.6	15.6	1.0	0.1217
Caucasian (%)	93.3	0.01	93.7	0.02	0.8717
Tender Joint Count (0-28)	9.3	0.4	7.2	0.6	0.0078
Swollen Joint Count (0-28)	8.2	0.4	7.5	0.6	0.3269
Physical Function (0-3) (MDHAQ)	0.7	0.03	0.4	0.03	<.0001
Pain Scale (0-100) (MDHAQ)	40.5	1.4	21.4	1.8	<.0001
Physician Global Scale (0-100)	38.2	1.1	24.7	1.6	<.0001
Patient Global Scale (0-100)	34.5	1.2	19.9	1.6	<.0001
CRP (mg/L)	9.9	1.0	6.7	0.9	0.0708
RF/CCP (%)	73.5	0.02	74.3	0.04	0.8540

Table 2. Variables which predict a flare over the next 6 months *

(Multivariate Regression)				
Model 1 - All Measures:				
Variable	Odds Ratio	Lower 95% CI	Upper 95% CI	P value
Age	0.9889	0.977	1.001	0.0716
CRP	0.9964	0.9877	1.0053	0.4298
Emotional Distress FSM15	0.9879	0.9787	0.9973	0.0119
Patient Global (MDHAQ Scale)	0.9951	0.9863	1.0039	0.2733
Pain (MDHAQ Pain Scale)	1.0131	1.0046	1.0218	0.0026
Tender Joint Count (0-28)	0.974	0.9434	1.0056	0.1061
Physician Global	1.0137	1.0041	1.0234	0.0052
AM Stiffness	1.3999	1.0241	1.9138	0.0349
Swollen Joint count (0-28)	1.0065	0.9749	1.0392	0.6889
Model 2 - Patient Reported Measures:				
Variable	Odds Ratio	Lower 95% CI	Lower 95% CI	P value
Age	0.9873	0.9758	0.999	0.0339
Emotional Distress FSM15	0.9896	0.9807	0.9987	0.0246
Patient Global (MDHAQ scale)	0.9968	0.9885	1.0051	0.4453
Pain	1.014	1.006	1.022	0.0006
AM Stiffness	1.5421	1.134	2.0971	0.0058
Model 3 - Physician Measures:				
Variable	Odds Ratio	Lower 95% CI	Lower 95% CI	P value
Age	0.9856	0.9758	0.9954	0.0041
CRP	1.0051	0.9985	1.0117	0.1297
Tender Joint Count (0-28)	0.9946	0.9738	1.0158	0.6158
Physician Global	1.0198	1.013	1.0267	<.0001
Swollen Joint count (28)	0.9964	0.9749	1.0183	0.7426

* Odds Ratios by GEE

Limitations

- Patients' information on flare is subject to recall bias
- Patients with active disease may be more likely to report flare

Conclusions

- Patient self reported flares are frequent in RA
- Over 50% last at least 1 week
- Patients who flare are more likely to use steroids, pain medications and or narcotics
- Patient pain VAS, physician global and TJC best reflect flare in patients with RA
- When considering PROs, only pain independently associates with flare over time

Acknowledgements

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