Performance of Remission Criteria and Activity Indices in Psoriatic Arthritis.

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Background/Purpose:
Remission criteria and activity indices used in rheumatoid arthritis (RA) are often applied in psoriatic arthritis (PsA). Although indices have been specifically developed for PsA: CPDAI (Composite Psoriatic Disease Activity Index), PASE (Psoriatic Arthritis Screening and Evaluation), DAPSA (Disease Activity index for Psoriatic Arthritis) and MDA (minimal disease activity criteria in Psoriatic Arthritis), few studies have compared their performance in PsA patients. The Objective was to evaluate the performance of different remission criteria and activity indices in PsA.

Methods:
55 consecutive patients with PsA (CASPAR criteria) were included. At study entry visit, information necessary to complete the following indices was captured: CPDAI, DAPSA, PASE, MDA, DAS28, SDAI, CDAI, and ACR/EULAR Boolean RA remission criteria. The following assessments were also included: HAQ, BASDAI, BASFI and PASI (Psoriatic Assessment of Skin Index).

Results: Mean age was 53 years (SD_12), and 35 (63.6%) were males. Mean PsA disease duration was 5.9 (SD_8.5) years and mean psoriasis duration was 15.9 (SD_ 12.6). Mean number of swollen and tender joint count was 2.4 (SD_ 3) and 4.3 (SD_6) respectively. Mean PASI was 1.9 (SD_2.7). In 33 patients (60%) the treating rheumatologist indicated a change in treatment.

Table 1. Percentage of patients in remission and different levels of activity according to the different indices

Index	Percentage in remission (95% CI)	Low disease activity (95%CI)	Moderate disease activity (95% CI)	High disease activity (95% CI)
DAS28	33 (20–45)	11 (4–22)	43 (30–58)	13 (5–24)
SDAI	4 (0.4–14)	34 (21–49)	36 (23–51)	26 (15–40)
CDAI	9 (1–17)	36 (24–50)	35 (22–48)	20 (10–33)
CPDAI	0	78 (65–88)	20 (10–33)	2 (0.04–10)
ACR/EULAR (Boolean)	9 (1–17)	–	–	–
MDA	29 (18–43)	–	–	–

Table 2. Correlation coefficients between different indices (Pearson).

Index	DAS28	CDAI	SDAI	CPDAI	PASE	HAQ	BASDAI	BASFI
DAS28	**1**	0.83	0.75	0.58	0.75	0.71	0.68	0.66
CDAI	0.83	**1**	0.76	0.57	0.75	0.70	0.63	0.62
SDAI	0.75	0.76	**1**	0.42	0.61	0.61	0.52	0.64
CPDAI	0.60	0.57	0.42	**1**	0.44	0.53	0.38	0.39
PASE	0.75	0.75	0.61	0.44	**1**	0.84	0.84	0.72
HAQ	0.71	0.70	0.61	0.53	0.84	**1**	0.76	0.79
BASDAI	0.68	0.63	0.52	0.38	0.84	0.76	**1**	0.82
BASFI	0.66	0.62	0.64	0.39	0.72	0.79	0.82	**1**

Table 3. Comparison of mean indices values between patients with and without change in treatment.

Index	Not changing treatment (n=22)	Initiating/Changing treatment (n=33)	P value (Mann-Whitney)
Mean PASE (SD)	29.5 (8.5)	42.2 (14.1)	0.0004
Mean CPDAI (SD)	2 (0.9)	4.7 (3.6)	0.0013
Mean DAPSA (SD)	6 (4.5)	11.7 (6.1)	0.0008
Mean DAS28 (SD)	2.3 (0.9)	4.3 (1.2)	<0.0001
Mean SDAI (SD)	8.7 (8)	29.2 (24.6)	0.0005
Mean CDAI (SD)	5.3 (3.5)	19.4 (11.8)	<0.0001

All indices showed good discriminative power for a change in treatment in the ROC curve: PASE- AUC (area under curve) _ 0.78 (95% CI: 0.65–0.9); CPDAI -AUC_ 0.81 (95%CI: 0.7–0.9); DAPSA–AUC_0.78 (95% CI: 0.65–0.91).DAS28- AUC_ 0.92 (95%CI: 0.89–1); CDAI-AUC_ 0.93 (95%CI: 0.87–0.99); SDAI- AUC_ 0.89 (95% CI: 0.79–0.99).

Conclusion: There were differences in the percentage of patients classified as in remission by the different remission criteria. Particularly, DAS28 and MDA seemed to be less stringent in PsA than the other indices. Of the specific indices studied CPDAI showed the poorest correlation with all the other activity measurements.