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Probability of Achieving Low Disease Activity or Remission in Subjects With Active Psoriatic Arthritis Treated With Apremilast.

Objectives: Therapeutic targets for long-term control of psoriatic arthritis (PsA) include achievement of remission (REM) or low disease activity (LDA), as measured by the Clinical Disease Activity Index for PsA (cDAPSA). This post-hoc analysis was conducted to (1) assess predictive values of baseline clinical disease status on achieving long-term cDAPSA targets at Week 52 and (2) examine the association between early response to apremilast (APR) at Week 16 and achievement of cDAPSA targets at Week 52.

Methods: Pooled analyses of 3 phase III studies (PALACE 1-3) were performed among subjects assigned to receive APR 30 mg twice daily at baseline. Data were analyzed using multiple imputation to account for subjects who discontinued or had missing values, using all available cDAPSA scores. Probabilities of shifting across different cDAPSA categories from baseline or Week 16 responses to Week 52 were calculated within these subjects. Binary logistic regression was performed to confirm results. Mean cDAPSA scores from baseline to Week 52 were analyzed by Week 52 cDAPSA category among subjects with moderate or high disease activity (HDA) at baseline.

Results: 494 subjects receiving APR were analyzed; at baseline, 74.3% had HDA, 24.5% had moderate disease activity, and 1.2% had LDA. Most subjects had ≥ 1 of the following at baseline: affected body surface area $\geq 3\%$, dactylitis > 0 (dactylitis severity score), enthesitis > 0 (Maastricht Ankylosing Spondylitis Enthesitis Score), or pre-existing axial PsA (physician determined) (HDA: 93.5%; moderate disease activity: 82.6%; LDA: 100%). Estimated probabilities of achieving cDAPSA LDA or REM at Week 52 were 46.9% in subjects with baseline moderate disease activity (cDAPSA > 13 to ≤ 27) and 71.1% in subjects with baseline LDA (cDAPSA > 4 to ≤ 13). In subjects with baseline HDA (cDAPSA > 27), probability of achieving LDA or REM by Week 52 was 24.9%. Subjects with moderate disease activity at baseline who improved to LDA or REM by Week 16 had high probabilities (58.9% and 88.5%) of remaining in target at Week 52. Among subjects with moderate disease activity at baseline, mean cDAPSA improvement $\geq 30\%$ by Week 16 was associated with LDA or REM achievement at Week 52.

Conclusions: Subjects with low or moderate disease activity at baseline exhibited the highest likelihood of achieving and maintaining LDA or REM improvement with continued APR treatment to Week 52. In these subjects, partial response with APR by Week 16 was associated with higher achievement or maintenance of cDAPSA LDA or REM by Week 52.