SUPPLEMENTARY MATERIAL

Statistical analysis

Continuous variables were categorized by using clinically relevant cut-offs or quantiles of their distribution and presented as absolute and relative frequencies. PsO localization and morphology were used as indicators in latent class analysis (LCA), while patients' age, sex, body mass index (BMI), psoriasis area severity index (PASI) and duration were included as covariates. In order to find the optimal classification, different LCA models were iteratively fitted by varying the number of latent classes (LCs) to be found. Lowest Bayesian Information Criterion (BIC) was used to judge the best classification. For completeness, Log-likelihood and Akaike Information Criterion (AIC) were also reported for each model. Both AIC and BIC are performance measures that account for model complexity, although BIC penalizes free parameters more strongly and it is usually preferred in model selection. Missing data in any covariate included were imputed by using data augmentation (DA) algorithm. DA uses a multiple imputation approach with Bayesian inference of posterior distribution at each step, that iteratively simulates missing data and parameters creating a Markov chain that stabilizes or converges in the underlying distribution (1, 2).

Estimated class proportions and conditional probabilities as well as predicted class membership based on modal posterior probabilities were reported as well. Univariate differences among predicted LCA classes were assessed by using Kruskal-Wallis and Pearson's X^2 test for continuous and categorical variables respectively. Multivariate assessment was performed by using multinomial logistic regression including covariates. The strength of association between variables and LCA classification was expressed in terms of odds ratios (OR) along with 95% confidence intervals (CI) and p-values. All tests were considered statistically significant at P-value <0.05. Analyses were performed with MATLAB v.9.1 (The MathWorks Inc, Natick, Massachusetts, US) and, for LCA, R software v.4.1.1 (R Foundation for Statistical Computing, Vienna, Austria) with package poLCA v. 1.6.0.

References

1. Folch-Fortuny A, Arteaga F, Ferrer A. Missing data imputation toolbox for MATLAB. Chemometrics and Intelligent Laboratory Systems. 2016;154:93-100.
2. Schafer J. Analysis of Incomplete Multivariate Data. Chapman and Hall/CRC Press, New York. 1997:37-143.