



AB006. Factor analysis of the UT Southwestern cutaneous lupus erythematosus (CLE) registry

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Abstract: Factor analysis is a dimension reducing test that seeks to describe variability seen amongst observed, correlated variables through a set of latent, or unobserved, variables called factors. This analysis can be applied to skin diseases like cutaneous lupus erythematosus (CLE) to objectively determine clinical factors that tend to co-exist and thus define disease subtypes. We performed a cross-sectional analysis of 268 patients enrolled in the University of Texas Southwestern Cutaneous Lupus Registry between November 2008 and July 2018. Clinical variables include individual American College of Rheumatology lupus diagnostic criteria, Physician's Global Assessment and Cutaneous Lupus Erythematosus Disease Area and Severity Index (CLASI) scores, autoantibodies, and demographics.

The factor analysis was performed using IBM SPSS Statistics. Results showed that approximately 42% of the variance was explained in the first six factors (F1 through F6). F1 delineated patients with high CLASI activity scores and involvement in the neck, chest, arms and back, which likely describe those with subacute cutaneous lupus erythematosus. F2 described patients with high CLASI damage scores on the scalp, ears and face, which are indicative of those with discoid lupus erythematosus. F3 described patients with skin damage in the trunk and legs, while F4 characterized skin damage predominately on hands and feet. F5 delineated patients with clinical characteristics of SLE. The factor analysis helps characterize where lesions of CLE tend to occur together and confirm clinical subtypes. Further analyses will be done to identify new unrecognized clinical patterns in CLE to better inform providers.

Keywords: Cutaneous LE; registry; factor analysis

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