

June 06/11: Quarterly visits are optimal for SLE disease activity measurements

Key messages:

- In contrast to patient groups the individual patients AMS estimations show increasing errors with less frequent visits.
 - To determine SLE disease activity quarterly visits are preferred over semi-annual and annual visits.
 - This period fits the ACR recommendations.
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Optimal frequency of visits for patients with systemic lupus erythematosus to measure disease activity over time

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Background: The in 2000 modified Systemic Lupus Erythematosus Disease Activity Index (SLEDAI-2K) is a currently used tool to assess disease activity in SLE. It has been proven as a valid method to measure disease activity in the preceding 30 days. The adjusted mean SLEDAI-2K (AMS) is used to describe the disease activity over time by dividing the area under the SLEDAI-2K curve by the length of time interval. This study compares AMS obtained by monthly (AMS_{GOLD}), quarterly (AMS₃), semi-annual (AMS₆), or annual (AMS₁₂) visits over a 1-year period and aims to determine the optimal frequency of visits to measure disease activity. For statistical calculation the monthly interval (AMS_{GOLD}) was considered as the gold standard.

Summary: The SLEDAI-2K score was evaluated for 78 SLE-patients showing up monthly for twelve consecutive visits. No statistically significant difference in the estimation of AMS was observed for the whole group regarding the time interval. Nevertheless for individual patients the distribution of errors between AMS_{GOLD}, AMS₃, AMS₆ and AMS₁₂ indicates a dose-response relationship. The more frequent the visits, the better the estimate of the AMS_{GOLD}.

25 patients showed an SLE flare indicated by a SLEDAI-2K score increase of 4 or more at least at one visit. The AMS_{GOLD} showed a significant difference of ≥ 1.0 among patients with and without flares. Defined as "important error" this difference was evaluated by comparing the several AMS of individual patients. The important error occurred in 3% of patients comparing AMS_{GOLD} to AMS₃, in 10% comparing AMS_{GOLD} to AMS₆ and 21% comparing AMS_{GOLD} to AMS₁₂.

Conclusions: Comparing groups of patients, yearly visits may suffice to describe disease activity over time. But at the patient level, in the estimation of AMS there are errors, especially important errors, which increase with less frequent visits.

For individual patients quarterly visits offer a good estimation of disease activity over a 1-year period and should be preferred over semi-annual and annual visits.

This fits to the ACR recommendations which postulate visits of at least every three months.

Comment: This study confirms that the quarterly visit is sufficient for SLE disease activity assessment. Patients should be advised to keep the 3 month term in purpose of a time saving but reliable disease follow-up.

Due to comparable results the quarterly visit is more cost effective compared to the monthly interval.

