Abstracts

Prevalence of Cognitive Impairment in Systemic Lupus Erythematosus Assessed by a Comprehensive Neuropsychological Battery

Background Cognitive impairment (CI) is a common neurobehavioural manifestation of systemic lupus erythematosus (SLE). In our recent systematic review, the prevalence of CI was 38% (95% CI 33% to 43%) with a wide variation (15–79%), which may be due to differences in CI definitions and selection of neuropsychological tests across studies. We aim to report the prevalence of CI in a large cohort using a comprehensive battery (CB) of tests in which we operationalized the classification of CI.

Methods Consecutive consenting SLE patients, aged 18–65 years, who attended a single center (Jul 2016-Feb 2018) were recruited. Patients were administered a CB that evaluates the major cognitive domains: Manual motor speed and dexterity, simple attention and processing speed, visual-spatial construction, verbal fluency, learning and memory (visuospatial and memory), executive functioning (untimed and timed).

Patient scores were compared to a normative sample of age- and gender-matched healthy controls to obtain z-scores. CI was operationalized on the CB as a z-score of ≤−1.5 (as compared to controls) on ≥2 domains or z<−2.0 on ≥1 domain. Descriptive statistics were used.

Results Of the 199 patients (89% female), the mean age at SLE diagnosis was 28.3±10.4 and disease duration at enrolment was 14.3±10.2 years. The prevalence of CI was 37.7% (z<−1.5 in ≥2 domains) and 49.8% (z<−2.0 in ≥1 domains).

Prevalence of patients with domain z-scores of ≤−1.5 and ≤−2.0 varied from 3.0%–46.2% and 0.5%–25.1% respectively (figure 1). The most affected domain was learning and memory (visuospatial and memory) in 92 (46.2%) patients based on z<−1.5 on ≥2 subtests and 50 (25.1%) patients based on z<−2.0 in ≥1 subtest.

Abstract CS-37 Figure 1 Prevalence of patients with domain z-scores of ≤−1.5 and ≤−2.0

Conclusion Prevalence of CI using our CB ranged between 37.7%–49.8% (z<−1.5 in ≥2 domains and z<−2.0 in ≥1 domains respectively), which was higher than the pooled prevalence from previous reports of 38%. These differences in CI prevalence across studies could be attributed to different factors including the heterogeneity in patients’ demographics/comorbidities, sample size, the use of different metrics to determine CI, and the lack of a standardized definition of CI. Further studies are required to identify the best definition for CI and its metrics.

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References

from CAPA (Canadian Arthritis Patient Alliance)) was created. A series of questions for recommendation development were identified based on the results of a survey of SLE practice patterns of members of the Canadian Rheumatology Association (CRA). Systematic literature reviews of randomized controlled trials and observational studies were conducted. Evidence to Recommendation Tables were prepared and presented to the panel at two face-to-face meetings for discussion and voting during and post-meeting online.

Results There were a total of fourteen recommendations for assessing and monitoring lupus patients (table 1). Three recommendations focused on disease activity and damage assessment suggesting that a validated disease activity score per visit and annual damage score were important in evaluating the patient. One strong recommendation was made for cardiovascular risk assessment with conditional recommendations for osteoporosis (2) and osteonecrosis (1). Three conditional recommendations were made regarding peripartum assessments, one on cervical cancer screening and two on hepatitis B and C screening. A strong recommendation was made for annual influenza vaccination.

Conclusions These are the first GRADE-based recommendations for the diagnosis and monitoring of SLE internationally. Evidence is largely of moderate to low quality resulting in more conditional versus strong recommendations. Further studies of higher quality and special attention to pediatric lupus populations are needed.

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