

CIORA Clinician Investigator Awardee: Summary of My Funded Work on SLE

By Zahi Touma, MD, PhD, FACP, FACR

I am a rheumatologist and clinical epidemiologist and my research is focused on patients with systemic lupus erythematosus (SLE) using measurement science, with a particular interest in the assessment of disease activity, patient-reported outcomes and cognitive function. I joined the Faculty of the University of Toronto, Division of Rheumatology as Assistant Professor in March of 2014 and hold School of Graduate Studies appointments. I have been successful in developing a research program which encompasses a multi-disciplinary team of rheumatologists, neuropsychologists, psychometrists, psychiatrists, an occupational therapist, experts on clinical measurement, a neurologist, patient-research partners, a lupus nurse, and a neuroimaging expert.

Patients with SLE often complain of cognitive problems (attention/vigilance, visuospatial span of attention/working memory and simple reaction time). Cognitive impairment (CI) is one of the most common manifestations of neuropsychiatric lupus, with a prevalence of 38%. Currently, the diagnosis of CI is delayed and its monitoring is not well developed. In 2015 my team and I embarked on a research project aiming to improve the assessment of CI in SLE. This project focuses on the assessment of CI based on a neurocognitive battery, an automated computerized test, along with patient self-report questionnaires for evaluating CI. This project will identify the best screening, diagnostic and monitoring metrics for CI and study the effects of CI on patients' participation in social roles. It will also highlight patients' quality of life and productivity as it relates to CI, and examines the role of anxiety and depression in SLE and CI. More importantly, this project will study the trajectories of worsening and/or improvement of CI in SLE. This will lead to a better understanding of CI in SLE patients and



potentially enable early intervention/therapy to prevent the accrual of long-term damage and disability. Currently, we have assessed over 250 patients.

I am privileged to be the recipient of the CRA-CIORA-Arthritis Society Clinician Investigator award. This award will allow me to continue to develop my program in CI in SLE. Specifically, our team is very interested in determining the utility of a multimodal brain imaging (structural and functional) approach to phenotype CI in lupus patients. It is only with the support of programs like the CRA-CIORA-Arthritis Clinician Investigator Award that early investigators such as myself can grow and develop their research programs, and ultimately have an impact on the quality of life of Canadians suffering from rheumatic diseases.

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