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AB0539

TEN YEARS OF THE MONASH LUPUS CLINIC: INSIGHT INTO THE CHARACTERISTICS AND OUTCOMES OF SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS IN AUSTRALIA

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Background: The Monash Lupus Clinic, based at Monash Health in Melbourne, is Australia's first multi-disciplinary specialist lupus clinic that serves a broad community and acts as a research hub, particularly as the foundation site and headquarters of the Australian Lupus Registry and Biobank (ALRB). Since its inception in 2007, the clinic has been co-run by rheumatologists and nephrologists. A carefully curated clinical dataset has been collected since clinic inception.

Objectives: We provide an overview of the characteristics and longitudinal outcomes of adult lupus patients treated at the Monash Lupus Clinic over the last ten years.

Methods: A ten-year-long dataset from the original Monash Lupus Clinic cohort, of patients subsequently enrolled in the Australian Lupus Registry and Biobank, was used for the analysis. The dataset included information on patient demographics, lupus diagnosis, serological profile, treatments, disease activity, damage accrual and other medical outcomes such as renal failure, adverse pregnancy outcomes and hospitalisations. Descriptive statistics were used to summarise the characteristics of the study population. Bivariate tests and regression analyses were used for comparisons between inception cohort patients, enrolled in the registry within 15 months of their Systemic Lupus Erythematosus (SLE) diagnosis, and existing SLE patients enrolled later in their disease course.

Results: Of the 329 enrolled patients, the median age at enrolment was 38.0 years and 87.8% of were female. Most patients were either of Caucasian (48.6%) or Asian (36.5%) ethnicity. Patients were enrolled a median of 4.0 years after their SLE diagnosis; 31.0% of patients were inception cohort patients. Most patients (95.4%) had an abnormal titre of anti-nuclear antibodies; 65.0% of the cohort were positive for anti-dsDNA autoantibodies. Included patients were observed for a median observation period of 3.9 years. The median adjusted mean SLEDAI score over the observation period was 4.0; 49.1% of the cohort spent $\geq 50\%$ of the observation period in the Lupus Low Disease Activity State and 43.5% had ever had a SLEDAI score ≥ 10 . Just over half (57.4%) had accrued damage at the end of the observation period; however, pleasingly only a very small minority had an adverse pregnancy outcome (2.7%), developed renal failure (2.4%) or died (2.4%) during the observation period. Inception cohort patients did not appear to be different to existing SLE patients except for being a population of patients earlier in their disease course.

Conclusion: Running a multi-disciplinary clinic alongside research activity is both feasible and worthwhile. Systematic collection of longitudinal data on SLE patients has shown that adverse outcomes such as end-stage renal disease and death are rare; however, with more than half of the cohort having damage present at the end of the observation period, there is still work to be done to improve outcomes for SLE patients in Australia. Expansion of the Australian Lupus Registry and Biobank beyond the Monash Lupus Clinic will provide further insight into the

characteristics and outcomes of SLE patients in Australia and provide a beneficial framework for future studies.

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AB0540

CAN LOW SERUM VITAMIN D LEVELS AFFECT THE COGNITIVE FUNCTION IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS?

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease involving various organs and systems including the nervous system. Neuropsychiatric SLE (NPSLE) occurs in 30 - 40% of SLE patients. One of the most common manifestations of NPSLE is cognitive dysfunction (CD) which is found in 20 - 80% of SLE patients. Epidemiological studies have reported vitamin D to be a potential risk factor of cognitive impairment within the general population. There have also been found associations between vitamin D levels and CD in multiple disease states, such as Alzheimer's disease, multiple sclerosis and SLE. It is hypothesized that vitamin D contributes to neuroprotection by modulating the production of proinflammatory cytokines. Vitamin D deficiency is highly prevalent in SLE patients due to photoprotection, renal insufficiency and use of different medication.

Objectives: To establish a possible association between serum vitamin D levels and cognitive function in SLE patients. To determine the presence of certain auto-antibodies (anti-dsDNA, antinucleosomal, anti-P protein, and antiphospholipid) in the serum, and the disease activity.

Methods: We included a total number of 70 patients diagnosed with SLE according to the American College of Rheumatology (ACR) classification criteria. We assessed disease activity according to SLE Disease Activity Index (SLEDAI). CD was evaluated on the basis of psychological analysis of cognitive functions with testing of attention, memory, psychomotor speed, visual spatial skills and speed of cognitive information processing. Serum vitamin D levels were measured by standardized immunochemical assay from blood samples.

Results: We analyzed 70 patients, 64 (91.4%) women and 6 (8.6%) men. The cognitive dysfunction with moderate to severe disability was found in 43 (61.4%) patients. There was found the statistically significant difference between two groups (with and without CD) in serum levels of vitamin D, 54.01 nmol/l (± 22.6) and 68.48 nmol/l (± 27.1), resp. ($p < 0.01$). The average value of the activity index (SLEDAI) in group with CD was 8.49 (± 8.4), vs 5.07 (± 4.9) in group without CD ($p < 0.01$). Antiphospholipid antibodies were positive in 17 (39.5%) patients with CD and in 6 (22.2%) patients without CD ($p < 0.05$). The other antibodies were positive in almost 50% (anti-dsDNA, antinucleosomal), P protein only in 8.8% in group of patients with CD.

Conclusion: On the basis of obtained results it can be stated that cognitive dysfunction was present in a high number of SLE patients. We demonstrated a high frequency of vitamin D deficiency among SLE patients with CD and statistically significant lower levels of vitamin D than in patients without CD. These results suggest that low vitamin D level could be associated with impaired cognitive function.

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