



## Headache in patients with systemic lupus erythematosus: a pilot study

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### Introduction

Headache is a symptom frequently reported by patients with Systemic Lupus Erythematosus (SLE), but it remains controversial as to whether the prevalence is higher than in those without the disease and if there is an association with disease activity.

### Objectives

1) to compare the prevalence, monthly frequency and impact of headaches between patients with SLE and a control group without the disease and 2) to compare the prevalence, monthly frequency and impact of headaches between patients with active SLE and those without disease activity.

### Methods

This is a case-control study. The case group consisted of patients diagnosed with SLE in regular follow-up at the rheumatology outpatient clinic of the Hospital das Clínicas, Universidade Federal de Pernambuco, excluding those with a previous diagnosis of secondary headache or overlapping autoimmune diseases. A control group, matched for sex and age, consisted of hospital staff and friends and relatives of patients who had no previous diagnosis of secondary headache or autoimmune disease. Data on SLE and headache were collected through interviews and questionnaires administered by a neurologist. Headache impact was assessed using the Headache Impact Test (HIT-6) scale, anxiety and depression symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS) and disease activity was evaluated using the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI)-2K modified scale, considering clinical and laboratory data from the last 30 days. All participants who reported at least one headache attack in the last year were considered as having headache and specific diagnoses were made based on the 3rd edition of the International Classification of Headache Disorders. SLE patients with SLEDAI-2K  $\geq 6$  were considered as having disease activity. Statistical analyses were performed in SPSS 28.0 with significance defined as  $p < 0.05$ .

### Results

A total of 102 individuals were included, 51 in each group. The SLE group consisted of predominantly female patients (94.1%), with a mean age of 35.2 ( $\pm 12.4$ ) years and a mean time of diagnosis of 10 ( $\pm 6.5$ ) years. The prevalence of headache in SLE patients was similar to the control group (92.2% vs 88.2%,  $p = 0.505$ ), as were the scores of the HIT-6 scale ( $57 \pm 9.8$  vs  $54.8 \pm 10.3$ ,  $p = 0.313$ ), but patients with SLE had a higher monthly frequency of pain ( $9.2 \pm 8.9$  vs  $5.5 \pm 7.1$ ,  $p = 0.034$ ). Migraine was the most common diagnosis in both groups (66.7% vs 62.7%,  $p = 0.679$ ), followed by tension-type headache (25.4% in both groups). Patients with SLE and the control group did not differ regarding the frequency of anxiety (62.7% vs 60.8%,  $p = 0.839$ ) and depression (49% vs 35.3%,  $p = 0.160$ ). Patients with active SLE showed no difference in relation to those without activity in terms of headache prevalence (90.9% vs 94.6%,  $p = 0.551$ ), HIT-6 scores ( $58.8 \pm 10.6$  vs  $56.9 \pm 9.4$ ,  $p = 0.606$ ), monthly frequency in days ( $7.4 \pm 9.7$  vs  $10 \pm 8.8$ ,  $p = 0.252$ ), anxiety (63.6% vs 59.4%,  $p = 1$ ) and depression (45.4% vs 45.9%,  $p = 0.977$ ).

### Conclusion

Headache is a frequent symptom in SLE, but prevalence is similar to the population without the disease. Patients with SLE have a higher monthly frequency, but there is no association with disease activity.

**Keywords:** Headache, Systemic lupus erythematosus, Autoimmune.