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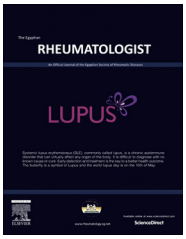

ORIGINAL ARTICLE

Major depression and disease activity among systemic lupus erythematosus Egyptian females

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KEYWORDS

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Abstract *Aim of the work:* The aim of this study was to identify the relationship between disease activity in SLE Egyptian females and the presence, severity and pattern of major depression in these patients.

Patients and methods: The study sample included 100 female patients; fifty SLE patients and fifty healthy adults with matching age serving as control. Patients were assessed using Beck Inventory Score for the presence of major depression, SLEDAI to determine disease activity, SLICC/ACR damage index and HAQ score for functional disability.

Results: The majority of patients had symptoms of major depression 32/50 (64%) based on Beck Inventory Score while in controls only 16/50 (36%) had major depression. The most common depressive symptoms in SLE patients were: Guilty feeling (92%), Self-dislike (91.6%), Self-criticalness (90.4%), Crying spells (87.5%), Loss of pleasure (83.3%), Change in appetite (83.3%), Agitation (82.8%) and Pessimism (82%). Patients with major depression presented a trend toward having greater severity of SLE disease activity compared with those without major depression ($p = 0.04$). The presence of major depression was significantly associated with functional disability measured by HAQ score ($p = 0.01$). The patients with major depression did not differ significantly from patients without major depression regarding their steroid dosage ($p = 0.55$), SLICC/ACR damage score ($p = 0.16$) and disease duration ($p = 0.69$) but differed significantly as regards Beck Hopelessness Scale ($p < 0.0001$) and suicidal ideation score ($p = 0.009$).

Conclusion: Major depression was highly presented in Egyptian SLE patients (64%); its severity was associated with disease activity, but not with steroid administration, cumulative damage or disease duration.

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1. Introduction

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease which usually affects multiple organ systems including the central nervous system (CNS) [1]. SLE is potentially disabling and many challenges are associated with coping with this chronic disease and the treatment regimen. Thus, SLE can have severe impact on individual quality of life and pose serious obstacles to achieving life goals in young individuals who are mostly affected [2]. Neuropsychiatric SLE (NPSLE) refers to the various psychiatric and neurologic manifestations that develop secondary to involvement of the CNS in patients with SLE [3].

Neuropsychiatric manifestations of SLE have been reported in Egyptian patients including seizures, mood affection, cognitive impairment, psychosis, headache, neuropathy and stroke [4,5]. Cognitive dysfunction is a prominent manifestation in NPSLE. Neuropsychiatric deficits and memory impairment in SLE patients affect their daily activities [6]. Cognitive dysfunction was also found to be a prominent feature in asymptomatic SLE Egyptian patients [7] and depression has been reported in 13.3% in another study [8].

Major depression is one of the most frequent psychiatric disorders observed in patients with SLE, with point prevalence rates between 10.8% and 39.6%, which is much higher than in the general population [9]. Depression in SLE is multifactorial. Major depression may be linked to neurotransmitter dysfunction and immune activation (lymphocyte abnormalities and cytokine expression) [10,11]. A recent study has shown that high dose prednisone ($\geqslant$20 mg daily) is one important independent risk factor and also cutaneous activity and certain types of neurologic activity (myelitis) are predictive of depression [12]. Depression in SLE aggravates fatigue, pain and psychological stress, and reduces drug compliance, leading to significant further impairment of quality of life and work disability [13,14]. The severity of depression may also increase the risk of suicidal thoughts [15,16].

The aim of this work is to evaluate the presence of major depressive disorders and the contributing factors to it in Egyptian female patients with systemic lupus erythematosus and also identify the association between SLE disease activity and depression severity.

2. Patients and methods

One hundred female participants were enrolled in the present study. They were all recruited from the Rheumatology and Rehabilitation both inpatient and outpatient clinics at Kasr Al-Ainy Hospital, Cairo University. Participants were divided into 2 groups: in Group (A) the studied sample included fifty SLE female patients fulfilling the ACR diagnostic criteria [17]. Only adult females (above 18 years old) without past history of psychiatric illness or serious medical illness were selected. Group (B): 50 adults served as control and were selected from workers at Kasr Al-Ainy matched for age, education and socioeconomic status. The study was submitted and approved by the Ethics Committee. Participants gave their oral and written consents after informing them about the goals, methods and expected benefits of the study.

Participants' socio-demographic data were gathered including age, educational level, employment and marital status. All Lupus patients underwent history taking, full clinical examination and laboratory investigations (including erythrocyte sedimentation rate, complete blood count, liver and kidney function tests, urine analysis and autoimmune profile tests). Assessment of disease activity was done using systemic lupus disease activity index (SLEDAI) scoring system [18] and patients were classified as inactive, having mild, moderate or severe activity. Also Assessment of organ damage was carried out using the Systemic Lupus Collaborating Clinics/ACR damage index (SLICC/ACR DI) [19] and of functional disability using the Health Assessment Questionnaire (HAQ) [20].

Psychometric assessment tools: A psychiatrist interviewed the patients and control three days weekly. He evaluated depression using the Beck Depression Inventory Score (BDS) [21]: 21 groups of statements on a 4 point scale. The score ranges from (0 to 63) where higher scores denote greater severity of depression. He also used the Beck Hopelessness Scale (BHS) [22] to assess hopelessness using a questionnaire that consists of twenty true or false questions. This scale ranges from (0 to 20), where mild cases range from (4 to 8), moderate cases (9 to 14) and severe cases (15 to 20).The intensity of suicidal thoughts during the preceding week was assessed by the Beck Suicidal Ideation Scale (BSI) [23]. This is a 19 item self-report questionnaire. Each question scores (0 to 2) and the score ranges from (0 to 38) with higher scores indicating more intense suicidal ideation.

Statistical analysis: Descriptive analysis of the results was done using (minimum, maximum, median, mean and standard deviation). Comparison between the study groups was performed using Chi square test. The Fisher Exact test was used instead when the expected frequency was less than 5. Correlation between different variables was carried out using the Spearman correlation equation. All statistical analysis was performed using SPSS 15.0 (Statistical package for the Social Science, USA). Statistical significance was defined as a p value < 0.05.

3. Results

Fifty SLE patients were included in our study, their age ranged from 19 to 45 years old with a mean of 27.9 $\pm$ 6.28 and their disease duration ranged from 0.41 to 19 years with a mean of 5.5 $\pm$ 4.5 years. Details of the socio-demographic features of the SLE patients are shown in Table 1. The clinical manifestations, immune profile and disease activity are presented in Table 2. 22% of the patients had mild to moderate activity on the SLE disease activity index while 24% had severe activity. According to the SLICC/ACR DI, hand deformity and DVT were present in 4%, osteoporosis & avascular necrosis, peripheral neuropathy, epilepsy and end stage renal disease in 2%.

Thirty-two (64%) SLE patients had major depression (MD) according to the Beck Depression Score. On the other hand, sixteen (36%) of the control suffered from major depression. Based on the Beck Hopelessness Scale; 34%, 14% and 22% of the patients were found to have mild, moderate and severe levels of hopelessness respectively and 20% of the patients showed symptoms of suicidal probability (Table 3). There was no significant difference in the socio-demographic features between the SLE patients with and without major depression. The BHS ranged from 0 to 18 with a median of 10 in MD