



Epidemiology of Systemic Lupus Erythematosus in Saudi Arabia



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Abbreviation: SLE: Systemic Lupus Erythematosus, CKD: Chronic kidney Disease, ESRD: End Stage Renal Disease, LN: Lupus Nephritis, AI: Activity Index, ICU: Intensive Care Unit

Introduction

Systemic lupus erythematosus (SLE) is a multisystem autoimmune disease with unknown etiology and growing incidence both locally and globally [1-2]. Like other autoimmune diseases, SLE remains incurable despite the newly introduced category of therapeutic agents namely biological therapies which target interferons, cytokines, T lymphocytes and co-stimulatory molecules, B-lymphocytes and B stimulatory molecules [3]. The prevalence data concerning any disease is crucial for the determination of its potentiality on the affected community. Generally, the prevalence data for SLE is not enough and still many areas around the world have lupic patients with no specific estimates for the disease prevalence rate while epidemiological data in other areas have been estimated many years before [4]. In Saudi Arabia, the first attempt was a study conducted to assess the incidence and clinical expression of SLE in the Eastern Province of Saudi Arabia and it revealed that the disease is uncommon in this region, only 32 cases being recorded in five years. However, the clinical manifestations of the disease are similar to those observed elsewhere [5]. In the Capital, Riyadh, another study was adjusted one year after the first one and the results were to large extent, similar [6]. A third study was conducted to determine the prevalence of SLE in Al-Qaseem region of the Kingdom of Saudi Arabia [7]. Later on, a retrospective study included patients who were diagnosed and treated for SLE from 1982 to 2008 at King Khalid University hospital, Riyadh was adjusted. Demographic and hematological parameters at diagnosis and the last follow-up, disease manifestations, organ involvement and clinical hematological complications were recorded. Association of hematological abnormalities with organ involvement was also

explored [8]. Another retrospective study, which covered a 27-year period (1980-2006) was conducted where 624 SLE patients referring to King Khalid University hospital, Riyadh were included [9]. The outcomes of lupus on pregnant women were also considered by researchers in Saudi Arabia. In an eminent study, Pregnancy outcome in 396 pregnancies in patients with SLE in Saudi Arabia was investigated. a retrospective evaluation of all pregnancies occurring in patients with SLE during the period from 1980 to 2006 was done. They have concluded that it is important to carefully plan pregnancy, and experienced rheumatologists and obstetricians should monitor SLE patients in pregnancy and postpartum [10]. Viral infections can affect the lupic patients in a higher rate than normal individuals. An important study has concluded that Herpes Zoster infections occur at increased frequency among patients with SLE and carry significant morbidity. Immunosuppressive therapy and severe manifestations of lupus may be risk factors for the development of Herpes Zoster although not necessarily at the time of disease flare or immunosuppressive therapy [11]. Lupus nephritis is a major risk factor for overall morbidity and mortality in SLE, and despite potent anti-inflammatory and immunosuppressive therapies still ends in chronic kidney disease (CKD) or end stage renal disease (ESRD) for too many patients [12]. The prevalence, clinical features, WHO histological types, therapy and renal outcome of lupus nephritis (LN) in Saudi Arabian patients was investigated during the period (1980-2006) [13]. Tubuloreticular inclusions (TRIs) were detected in renal biopsies of Saudi lupic patients and their correlation with the activity index (AI) and lupus nephritis (LN) class were determined [14]. Racial differences

between SLE patients were recorded in one study conducted in the western province whereas, Patients of African descent had higher rates of neurological involvement and renal failure. The mortality in this group was also highest [15]. The affected age in lupic patients was screened and studies done in eastern and central regions of the kingdom have shown that patients with SLE are found to be between the age group 20-30 [16,17]. The mortality rate between lupic patients is higher, mainly due to organ damage. Consequently, a cohort study was conducted and the causes, outcome and prognosis of severe illness in patients with SLE requiring intensive care unit (ICU) care in a University Hospital over a five-year period (January 1997-December 2001) were studied prospectively [18]. The relationship between SLE and infections is still mysterious with controversial data [19]. An important study has illustrated that more judicious use of corticosteroids and other immunosuppressive agents will be critical to limit the infections in SLE and a high alert and close monitoring of patients will ensure optimal patient outcome, both in terms of morbidity and mortality [20]. Complications of lupus on the cardiovascular [21] and pulmonary systems [22] were studied in two different studies in the western province. On the other hand, retrospective study aimed to collect data related to the clinical manifestations and laboratory investigations of SLE patients in the eastern part of Saudi Arabia was performed [23]. Indeed, the available data about the epidemiology of SLE in Saudi Arabia is suffering from a shortage in both of the southern and northern provinces while data from eastern, western and central areas are to some extent better with persistent need to more comprehensive studies.

Conclusion

Studies about SLE epidemiology in the Kingdom of Saudi Arabia are neither few nor adequate. It needs more attention from researchers to continuously update the new records for the disease so as to accurately determine its epidemiology.

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