MULTIPLE SCLEROSIS IN IRAQ: HISTORY, EPIDEMIOLOGY AND THE FUTURE

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Introduction:

Multiple sclerosis (MS) is a chronic inflammatory disease of the central nervous system (CNS) (1). It is the most common cause of disability in young adults after trauma (2). MS is known to show variable prevalence rates, demographic, and clinical manifestations depending on geography and ethnic background. It is generally believed that MS prevalence is low or moderate in Middle Eastern countries (3). The wide variety of clinical manifestations depends on the extent and the anatomical sites of the demyelinating plaques. The functional prognosis of the disease is poor in the late phases of the disease (4).

Common clinical patterns of MS:

1. Relapsing–remitting (RRMS): the most common form (85% of patients). It is characterized by periods of relapses and remissions of neurological symptoms with or without residual disability.
2. Secondary progressive (SPMS): may develop in up to two thirds of patients with relapsing–remitting disease. Patients continue to worsen with or without periods of remission.
3. Primary progressive (PPMS): affects around 10% of patients. Symptoms worsen gradually from disease onset. There are no relapses or remissions although occasional plateaus may occur (1).

Baghdad MS Clinic:

Following the increasing recognition of patients with MS in the nineties seen at different hospitals in Baghdad and the other cities in Iraq and because of the advances in the diagnostic tests for neurological diseases and especially because of the emerging therapies for MS, which used to be perceived as untreatable disease, the idea of establishing a specialized MS clinic started to emerge.

Baghdad MS clinic was one of the first specialized MS Clinics in the Middle East; it was established in 2000 at Baghdad University Hospital (Medical City Teaching Hospital). The clinic was geographically accessible for most of the population in Baghdad and the rest of Iraqi cities. It is a multidisciplinary specialized neurological service with access to neuroimaging, neurophysiological studies and rehabilitation services. The service was virtually free and equally accessible for the entire Iraqi population. One of the main advantages of such service was the collection of data from MS patients which is of great help in setting directions, plans, and research studies. (3) Data from this Clinic was presented at different regional and international conferences.
Clinical and demographic characteristics of MS in Iraqi patients:

The first account for MS patients among the Iraqi population dates back to the 1950s (5). A study by Hamdi in 1975 found that MS was more prevalent in Kurdish people who live in Northern Iraq (6). In an early publication from Baghdad MS Clinic, the clinical and demographic features of Iraqi MS patients were found to be comparable to the so-called “Western type” of MS as seen in Caucasians. These included: age at onset, clinical course, male predominance and older age of onset in PPMS, frequency of initial presenting symptoms, cumulative neurological signs, disability status, and MRI findings. There was a difference in gender ratio and family history. Female to male ratio of 1.2:1 in one study is somewhat lower than the 2:1 or higher ratio in most Western series, but consistent with reports from neighboring countries like Kuwait, Saudi Arabia, and Jordan (3). A large Iranian study reported increasing disease incidence in females between 2002 and 2008 from 2:1 to more than 3:1 (7).

Family history of MS was reported in up to 5.7% of patients (15% or higher figures reported in Western series). Limitation factors to family history reporting include: lack of careful interviews with 1st, 2nd and 3rd degree relatives of the index case, large family size, and communication difficulties (3). Familial aggregation is a well-known phenomenon in high prevalence areas and it is considered rare in Asia (2).

A comparison study between familial and sporadic MS in Iraqi patients in 2011 found no significant difference in terms of the demographic patterns, clinical course, and presentation. Higher percentage of RRMS patients with sporadic MS (41.6%) progressed to SPMS compared with familial cases (around 36.4%). This should be taken with caution as the numbers were small. There was a statistically significant inverse relation between mean age at onset and lag time to diagnosis ie the younger age, the longer lag time to diagnosis (p=0.007). Also, there was direct correlation between lag time to diagnosis and time to second attack (p=0.05). The individual groups did not vary significantly in this regard (2).

A study looking at the disability and prognosis of 500 RRMS cases from the MS clinic in Baghdad showed that older age at onset, pyramidal and sphincter involvement at the beginning of the illness, and relapse rate in the first two years of the disease were poor prognostic factors. On the other hand, Western studies showed that younger age at onset is a poor prognostic factor, likely due to accumulation of disability with time. Gender was found not to affect outcome in that study, which is in contrast to the widely agreed consensus that female patients have better prognosis than male (4). In 2010, a Lebanese group looked at the
prognostic factors of MS in Lebanon found no difference from similar predictors in western countries (8).

**MS Epidemiology and North South gradient:**

There were no well-conducted MS epidemiological studies from Iraq prior to the establishment of the MS Clinic in Baghdad. An increase in reported cases is noticed possibly due to increasing recognition of the disease, better facilities for the diagnosis, and increasing number of neurologists and other specialties dealing with MS. There is an interesting phenomenon of progressive increase in the number of MS patients over the years in the last three decades according to the age of onset, and the low proportion of patients with long duration of the disease. An increase in incidence in the last three decades is a possibility, but this should be accepted with caution. The significant increase of the number of women with MS compared to men in the last three decades might stimulate the pattern of increasing trend in women in the West. The gender shift is difficult to be explained by a changing social structure that might give women more access to medical services. Changing environmental factors might provide one explanation for increasing incidence; a shift towards a more Western lifestyle has been linked to the increase of MS incidence in Japan. In Iraq, economic and social changes have been apparent, especially since the early 1970s and might be a factor (3).

Looking at data from neighboring countries, a study from Iran estimated MS prevalence in Tehran to be at least 51.9:100,000 (7). However, a more recent study from Southeastern Iran reported a prevalence of around 14:100,000 which is comparable to countries in the region (9).

MS has been shown to increase in prevalence with increasing distance from the equator. In Iraq, MS patients born in Naynawa were more than six times those born in Basra in one study; both governorates have approximately equal population and are roughly equidistance from Baghdad. There is a latitude difference between the two regions; with Naynawa lying on the 29th and Basra on 35th degree. Also, dietary habits are different between the two areas; people in the North eat animal fat rich diet while South residents eat more seafood. Sun exposure and temperatures are more in the South. Thought the majority of people in both regions are Arabs, it’s been observed that Iraqis from Naynawa have fairer skin, lighter eye colour, non-Arab and non-Muslim minorities than those from Basra. These differences raise the possibility of different genetic constitutions between Iraqi patients which in turn may affect the susceptibility to develop MS (3). A study from Israel on Arabic MS patients reported more rapid disease course in Druze and Muslims compared to Christians. High relapse rate, annual disability progression, and MS severity scores were higher among the Druze. These findings support the hypothesis of population specific MS phenotypes (10).
The Future:

MS remains a disabling disease with significant impact on people lives. Advances in research in the last three decades provided new treatments for the relapsing forms of MS. More studies are in progress to find solutions for progressive MS patients.

Health services in Iraq have been suffering as a result of wars, sanctions, and slow recovery after 2003. Many skilled health professionals have migrated to other countries, and new graduates continue to leave. A decade has passed since 2003 but the health infrastructure is not fully restored. The healthcare system is centralised and focused on big hospitals (11). The absence of clear strategies in setting up medical services and financial planning are the main reasons why patients with complex diseases are not receiving ideal medical care. There is a strong need for long term planning for conditions like MS where enthusiastic medical profession and reliable management groups work hand in hand to build the basis for medical institutions where healthcare is provided to patients at excellent level.

Conflict of Interest: none.

References:

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