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The Frequency of Anti-Aquaporin-4 Ig G Antibody and Oligodendrocyte Glycoprotein (MOG) in Neuromyelitis Optica Spectrum Disorders

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Neuromyelitis optica (NMO) is characterized by severe attacks of optic neuritis (ON) and longitudinally extensive transverse myelitis (LETM) with 3 or more vertebral segment spinal cord lesions observed on magnetic resonance imaging (MRI). Approximately 90% of the patients with NMO and more than half of the patients with NMOSD are positive for autoantibodies againstaquaporin-4 (AQP4). A proportion of patients with NMO or NMOSD remain AQP4 antibody negative despite the use of the best assays available on serum samples collected during an acute attack and before initiating any treatment. Recently, autoantibodies against myelin oligodendrocyte glycoprotein (MOG) were reported in some patients who were clinically diagnosed with NMOSD and negative for AQP4 antibodies. However, in Iraq none of the previous studies investigated comprehensively the features that may distinguish patients with AQP4 antibodies from those with high-titer MOG antibodies or those who are negative for both antibodies, even though such information is useful for clinical practice.

Sera from patients diagnosed with NMOSD in 3 centers were tested for MOG and AQP4 antibodies using cell-based assays with live transfected cells.

Among the 95 patients with NMOSD, 12.6% (12/95) were positive for MOG antibodies and 51.5% (49/95) were positive for AQP4 antibodies. No patients were positive for both antibodies. Compared with patients with AQP4 antibodies or patients who were seronegative, patients with MOG antibodies were more frequently male, had a more restricted phenotype (optic nerve more than spinal cord), more frequently had bilateral simultaneous optic neuritis, more often had a single attack, had spinal cord lesions distributed in the lower portion of the spinal cord, and usually demonstrated better functional recovery after an attack.

Patients with NMOSD with MOG antibodies have distinct clinical features, fewer attacks, and better recovery than patients with AQP4 antibodies or patients seronegative for both antibodies.

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The Patterns of Clinical Presentation of Multiple Sclerosis in Patients Admitted to the National Center of Neurological Sciences, Khartoum, Sudan 2018

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Multiple sclerosis (MS) is an immune- mediated inflammatory disease that attacks myelinated axons in the central nervous system leading to significant disability.

This study is a descriptive cross-sectional study conducted at the national center for neurological sciences (NCNS), Khartoum Sudan, over 3 years period from August 2015 to April 2018. The diagnosis was performed based on Poser & Mackdonalds criteria. Data was collected using Questionnaire. The diagnosis was confirmed by brain and cervical spine magnetic resonance imaging (MRI) with sagittal FLAIR, serum and cerebrospinal fluid (CSF) oligoclonal band.

Sixty-five patients were enrolled. The majority (90.8%) of them were females. 38.4% were within the age group from 21-30 years and 95.4% had no family history of MS. 18 patients (27.6%) had decreased visual acuity, 13 patients (20%) had ataxia, and 33 patients (50.7%) had a past history of similar condition. 64.6% out of 65 patients had more than two lesions detectable in their brain MRI. Only 18.4% of the patients were examined for CSF analysis. Oligoclonal band was found positive in all of them.

Females predominated in 91% of the patients. The most affected age group was ranging between 21-30 years. Relapsing-remitting type was the most common disease course. Oligoclonal band was detected in all of the patients. Azathioprine was found to be very effective.

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Thalamic Involvement and its Impact on Disability and Cognition in Multiple Sclerosis: A Clinical and Diffusion Tensor Imaging Study

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Grey matter involvement is suggested to have a role in the pathophysiology of multiple sclerosis (MS). Diffusion tensor imaging (DTI) at 1.5T was used to investigate the presence of damage to the normal-appearing thalamus in MS and its relationship with cognitive impairment, clinical disability, and fatigue.

Thirty-one patients with MS (23 relapsing-remitting (RRMS) and 8 secondary progressive (SPMS)) with mean age 34.4± 8.5 SD were studied. Age-, sex-, and education level- matched healthy controls were recruited. They all underwent clinical assessment, neuropsychological assessment and radiological assessment using 1.5 T DTI. Fractional anisotropy (FA) and apparent diffusion coefficient (ADC) were measured over regions of interest over the thalamus. Comparisons and correlations were made between patients and controls concerning clinical and radiological data.

Patients with MS had higher thalamic FA (p=<0.001) and ADC (p=<0.001) than volunteers. Patients showed worse performance in all neuropsychological tests than controls except in Mini-Mental State Examination (MMSE). Performance in CVLT-II-SR was correlated with mean ADC over left thalamus (p=0.038). There was a significant correlation between total Expanded Disability Status Scale (EDSS) and Mean thalamic FA. Also, there were correlations between disease duration, number of attacks and mean FA over the thalamus. There were significant correlations between performance on neuropsychological tests and disease duration, number of attacks and total EDSS. Regarding fatigue, SPMS patients were more fatigued than RRMS patients (p=0.002). FSS had significant correlations with disease duration, number of attacks and total EDSS.

DTI was able to detect abnormalities in normal-appearing thalamus of patients with MS. Thalamic involvement had significant relations with cognitive impairment and clinical disability in patients with MS.

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Neuromyelitis Optica Spectrum Disorders in Arabian Gulf (NMOAG): A Newly Established Registry

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To describe the clinical and radiological characteristics of neuromyelitis optica spectrum disorders (NMOSD) in Arabian Gulf region according to the patients' anti-Aquaporin 4 antibody (anti-AQP4-Ab) serostatus

Retrospective multicentre study of hospital records of NMOSD patients based on 2015 consensus criteria

One hundred forty four patients were identified, of whom sixty four percent (64.3%) were tested positive for AQP4 antibodies. The mean age at onset and mean disease duration were 31±12, and 7±6 years respectively. Patients were found to be predominantly female with a ratio of 4.7:1 in relapsing and monophasic courses. Optic neuritis (ON) was the most frequent presentation among seropositives and seronegatives patients. The proportion of patients (54.3%) with visual acuity of ≤ 0.1 was higher in seropositive group (p=0.018). Primary presenting symptoms of transverse myelitis (TM) were observed in 29% of patients, and was a major reason of hospitalization (p<0.001). Relapsing course 115 (80%) was more common than monophasic 29 (20%). There was no significant difference according to the sero-status in terms of age of onset, course, relapse rates, and efficacy outcomes except for oligoclonal bands (OCB), which were more often present in seronegative patients (p=0.054). Several disease modifying therapies were instituted including steroids or immunosuppressives, mostly, rituximab and azathioprine in the cohort.

This is the first descriptive NMOSD cohort in the Arabian Gulf region. Seropositive patients were more prevalent with female predominance. Relapsing course was more common than monophasic. Rituximab and azathioprine were more efficient among immunosuppressives irrespective of the serostatus

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Demographic and Clinical Characteristics of MS Patients Concomitant with Psoriasis: Lower Relapses, Lower Disability

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Multiple Sclerosis (MS) and psoriasis are immune-mediated diseases. The prevalence estimation of psoriasis in the general population is 0.9-8.5% in adults, that depending on the region. Similar to MS, it seems to be higher in the region with more distance from the equator. The most prevalent autoimmune diseases associated with MS were thyroid disease and psoriasis based on previouos findings in the literature.

To assess the demographic and clinical characteristics of MS patients associated with psoriasis, this prospective, cross-sectional study was designed on 2019 in Multiple Sclerosis Research Center, Tehran, Iran.

We reported 12 MS patients associated with psoriasis. The mean age, duration of MS and psoriasis onset was 34.16±9.90, 6.21±4.65 and 10.75±8.08 years respectively. Mean Expanded Disability Status Scale (EDSS) and Annualized Relapse Rate (ARR) was 2.17±1.72 and 0.67±0.48 (relapse per year) respectively. Eleven patients (91.7%) suffered from Relapsing Remission Multiple Sclerosis (RRMS) with mean age, EDSS, ARR, duration of MS and onset of psoriasis 33.91±10.34 (years), 1.86±1.43, 0.68±0.50 (relapse per year), 5.23±3.33 (years), 9.00±5.60 (years) respectively. Only one 37 years old patient (8.3%) suffered from Secondary Progressive Multiple Sclerosis (SPMS) with EDSS=5 and ARR=0.59 relapse per year, duration of MS and onset of psoraisis 17and 30 years respectively.

In nine patients, the onset of psoriasis was before MS (mean=7.28±4.64 years), and in two patients, the onset of psoriasis was after MS. In one of the patient's MS and psoriasis happened at the same time. The mean ARR in RRMS patients were 0.68±0.50 relapse per year which is lower than the natural course of MS (0.7-1.2 relapse per year). Also, all of MS patients were in the inactive phase of psoriasis without any treatment of this disease.

The result of this study suggests a milder course of association of MS and psoriasis in patients with this concomitantly.

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Budget Impact Analysis of Cladribine Tablets in Relapsing-Remitting Multiple Sclerosis (RRMS) Patients in Kingdom of Saudi Arabia

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Multiple sclerosis (MS) is a common, chronic and degenerative neurological condition which is associated with neurological impairment and severe disability. It majorly affects young adults. Relapsing-remitting MS (RRMS) is the most common form and constitutes approximately 85% of MS cases. Current treatment options for RRMS patients mainly include disease-modifying drugs (DMDs) across Kingdom of Saudi Arabia (KSA). Most of the currently available DMDs involve long-term administration and/or monitoring costs. However, recently launched cladribine tablets is the first short-course oral treatment for RRMS patients with a favourable benefit risk profile. It includes maximum of 20 days of treatment over 2 years that deliver up to four years of disease control.

To assess the budgetary impact of introducing cladribine tablets, compared with other DMDs currently used to treat RRMS patients in KSA, a Microsoft Excel® based budget impact model was adapted from KSA payer's perspective. The data were retrieved from literature and validated by key opinion leaders. The comparators considered were alemtuzumab, dimethyl fumarate, fingolimod, interferon-beta (IFNβ)-1a, IFNβ-1b, natalizumab and teriflunomide. The model calculated the total cost associated with the treatment of RRMS patients with and without cladribine tablets over 5 years' time horizon. The total costs included acquisition and administration costs and the costs of monitoring, relapse and adverse event management.

The budget impact analysis showed that the introduction of cladribine tablets resulted in 0.9% (Saudi Riyal [SAR] 385,394, ($USD 1 =3.75 SAR).) savings in the overall payers' budget over a span of five years. The results demonstrated that cost savings were predominantly driven by the reduction in the cost associated with drugs administration (−46.5%), followed by adverse event management (−5.5%).

Cladribine tablets could be a cost saving treatment option for RRMS patients from the payer perspective in KSA, freeing more healthcare resources for other diseases management

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Distribution of Cervical Spinal Cord Lesions Among a Sample of Egyptian MS Patients

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