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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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