بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY

Vitamin D Level in Children with Acute and Relapsing Demyelinating Disorders of the Nervous system

Thesis

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بسم الله الرحمن الرحيم

قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
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صدق الله العظيم

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List of Abbreviations

Abbr.	Full-term
ADEM	*Acute disseminated encephalomyelitis*
AE	*Autoimmune encephalitis*
ACD	*Albumin cytological dissociation*
ADS	*Acqired demyelinating syndromes*
APTM	*Acute partial transverse myelitis*
ACTM	*Acute complete transverse myelitis*
ANEC	*Acute necrotizing encephalopathy of childhood*
AIDP	*Acute inflammatory demyelinating polyneuropathy*
AMAN	*Acute motor axonal neuropathy*
AMPAR	*A-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor*
AMSAN	*Acute sensorimotor axonal neuropathy*
APC	*Antigen presenting cells*
AQP4	*Aquaporine 4*
APS	*Area postrema syndrome*
BBB	*Blood brain barrier*
CBC	*Complete blood count*
CIDP	*Chronic inflammatory demyelinating polyradiculoneuropathy*
CIS	*Clinically isolated syndrome*
CMV	*Cytomegalovirus*
CNS	*Central nervous system*
CSF	*Cerebrospinal fluid*
CT	*Computed tomography*
Diag	*Diagnosis*
DWI	*Diffusion-weighted imaging*
DIS	*Dissemination in space*
DIT	*Dissemination in time*
EAE	*Experimental autoimmune encephalomyelitis*
EEG	*Electroencephalography*
ELISA	*Enzyme-linked immunosorbent assay*
F	*Female*
FLAIR	*Fluid attenuated inversion recovery*

GABAB r .....Gamma-aminobutyric acid-B receptor
GAD65.....Glutamic acid decarboxylase 65
GBS.....Guillain-Barré syndrome
GlyR.....Glycine receptor
GM.....Gray matter
HIV .....Human immunodeficiency virus
HS .....Highly significant
IVIG.....Intravenous immunoglobulin
IVPMP.....Intravenous pulse methylprednisolone
IL.....Interleukins
LETM.....Longitudinally extensive transverse myelitis
LP.....Lumbar puncture
M..... ..Male
MAC.....Membrane attack complex
MFS..... ..Miller fisher syndrome
MOG-Ab.....Myelin oligodendrocyte glycoprotein antibody associated disease
MOBP.....Myelin associated oligodendrocyte basic protein
MBP.....Myelin basic proteins
MRI.....Magnetic resonance imaging
MHC.....Major histocompatibility complex
MS .....Multiple sclerosis
MDEM.....Multiphasic disseminated encephalomyelitis
N.....Number
NMDAR.....N-methyle-D-aspartate receptor
NMOSD .....Neuromyelitis optica spectrum disorders
NS .....Non significant
NK.....Natural killers
NCV..... .Nerve conduction velocity
ON..... .Optic neuritis
OPC.....Oligodendrocyte precursor cells
OMS.....Opsoclonus myoclonus syndrome
OCB.....Oligoclonal bands
PLEX..... ..Plasma exchange
PLP.....Proteolipid protein
PTH.....Parathyroid hormone
RANBP2.....Ran binding protein 2
RXR.....Retinoid X receptor
S .....Significant
SD..... .Standard deviation

TB .....Tuberculosis
Ttt..... ..Treatment
Th.....T-helper
Treg.....T regulatory
T.....Transverse myelitis
VEP..... ..Visual evoked potential
VDR.....Vitamin D receptor
25(OH)D.....25-hydroxy-vitamin D
1,25(OH)$_2$D.....1,25 dihydroxy-vitamin D

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Introduction

Acquired demyelinating syndromes (ADS) in childhood is an umbrella term used to describe a spectrum of different inflammatory demyelinating diseases of the central nervous system ***(Banwell et al., 2009)***, which comprise a spectrum of monophasic and recurrent inflammatory conditions. Examples of monophasic conditions include, clinically isolated syndromes (CIS) such as optic neuritis (ON) and transverse myelitis (TM), as well as acute disseminated encephalomyelitis (ADEM), while recurrent disorders include entities such as multiple sclerosis (MS), neuromyelitis optica spectrum disorder (NMOSD) and serum antibodies associated demyelination ***(Neuteboom et al., 2017).***

ADS may be resulting in single (monofocal) or multiple (polyfocal) lesions in the central nervous system (CNS) ***(Hintzen et al., 2016).***

Up to 80% of children with ADS experience monophasic illness. ADEM is a relatively common subtype (22-32%). The remaining ADS experiencing a recurrent disease such as MS. ***(Absoud et al., 2013; Ketelslegers et al., 2012; Banwell et al., 2009).***

Guillain-Barre syndrome is an immune-mediated inflammatory demyelinating disease of the peripheral nervous