ROLE OF VITAMIN D IN THE PATHOGENESIS OF MULTIPLE SCLEROSIS AND ITS EFFECT ON BONE AND COGNITION

THESIS
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بسم الله الرحمن الرحيم

"ويسئلونك عن الروح قل الروح من أمر ربي وما أوتيتم من العلم إلا قليلا"

صدق الله العظيم
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TO MY FAMILY

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LIST OF ABBREVIATIONS

ADAM	A Disintegrin And Metalloproteinase Domain
aBMD	Areal Bone Mineral Density
AMP	Adenosine Monophosphate
ANOVA	Analysis of Variance
APCs	Antigen Presenting Cells
ATP	Adenosine Triphosphate
AZA	Azathioprine
BBB	Blood-Brain Barrier
BM	Bone Marrow
BMC	Bone Mineral Content
BMD	Bone Mineral Density
BMD H	Bone Mineral Density at Hip joint
BMD L	Bone Mineral Density at Lumbar spine
BMD W	Bone Mineral Density at Wrist joint
BMI	Body Mass Index
BRB	Brief Repeatable Battery
Ca i	Ionized Calcium
Ca T	Total Calcium
CBC	Complete blood count
CCL	Chemokine C-Motif Ligand
CD	Clusters Of Differentiation
CDR	Clinical Dementia Rating
CDT	Clock Drawing Test
CLIA	Chemiluminiscent Enzyme Immunoassay
CMV	Cytomegalovirus.
CNS	Central Nervous System
CPM	Cyclophosphamide
CSF	Cerebrospinal Fluid
CXCL	Chemokine (C-X-C Motif) Ligand
DC	Dendritic Cells
DSST	Digit Symbol Substitution Test
DXA	Dual Energy X-Ray Absorptiometry

EAE	Experimental Allergic Encephalomyelitis
EBV	Epstein-Barr Virus
EDSS	Expanded Disability Status Scale
FBS	Fasting Blood Sugar
FLAIR	Fluid Attenuated Inversion Recovery
FNB	Food and Nutrition Board
FSS	Fatigue Severity Scale
FST	Faces Symbol Test
FST 90	Face Symbol Test 90 seconds
FST T	Face Symbol Test Total
GH	Growth Hormone
GIO	Glucocorticoids Induced Osteoporosis
HHV	Human Herpes Virus
HLA	Human Leukocyte Antigen
HPT	Hyperparathyroidism
IFN	Interferon
IGF	Insulin-Like Growth Factor
Igs	Immunoglobulins
IL	Interleukin
IM	Immunomodulatory
iNOS	Inducible Nitric Oxide Synthase
ISCD	International Society for Clinical Densiometry
IU	International Units
JNK	c-Jun N-terminal Kinase
LFA-1	Leukocyte Functional Antigen.
M	Mean
MAP kinase	Mitogen-Activated Protein Kinase
MBP	Myelin Basic Protein
MCP	Monocyte Chemotactic Protein
MHC	Major Histocompatibility Complex
MMF	Mycophenolate Mofetil
MMPs	Matrix Metalloproteinases
MMSE	Mini-Mental State Examination
MP	Methyl Prednisolone

MRI	Magnetic Resonance Imaging
MRS	Magnetic Resonance Spectroscopy
MS	Multiple Sclerosis
MSNQ	MS Neuropsychological Screening Questionnaire
NG2	Neural Glia Antigen 2
NKT	Natural Killer T Cell
NO	Nitric Oxide
NP	Neuropsychological
OEP	Osteoporosis Education Project
OPG	Osteoprotegerin
PASAT	Paced Auditory Serial Addition Task
PET	Positron Emission Tomography
PMN	Polymorphnuclear Neutrophils
PPBS	Post Prandial Blood Sugar
PPMS	Primary Progressive Multiple Sclerosis
PTH	Parathyroid hormone
PTHrP	PTH Related Peptide
RANK	Receptor Activator Nuclear Factor-Kb
RANKL	Receptor Activator Nuclear Factor-Kb Ligand
RANTES	Regulated Upon Activation, Normal T-Cell Expressed, and Secreted
ROI	Regions of Interest
RRMS	Relapsing-Remitting Multiple Sclerosis
SBT	Short Blessed Test
SD	Standard Deviation
SDMT	Symbol Digit Modalities Test
SHPT	Secondary Hyperparathyroidism
SPMS	Secondary-Progressive Multiple Sclerosis
TGF-β	Transforming Growth Factor Beta
Th1	T Helper 1
Th2	T Helper 2
TLR	Toll-Like Receptors
TNF-α	Tumor Necrosis Factor-A
TRAF-6	TNF Receptor Associated Factor-6
TRAIL	Tumor Necrosis Factor Related Apoptosis-Including Ligand
Treg	Regulatory T Cell (Suppressor T Cell)

UV	Ultraviolet
VCAM-1	Vascular Cell Adhesion Molecule
VDR	Vitamin D Receptors
VEP	Visual Evoked Potential
VLA-4	Very Late Antigen-4
WHO	World Health Organization

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