

BALANCE DISTURBANCE IN PATIENTS WITH MULTIPLE SCLEROSIS

Thesis

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قالوا سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم الحكيم



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List of Abbreviations

ADT:	Adaptation test.
AFO:	Ankle-foot orthosis.
BAEP:	Brain stem auditory evoked potentials.
SSEP:	Somatosensory evoked potentials.
CPG:	Central pattern generator.
BBS:	Berg balance scale.
BOS:	Base of support.
CDMS:	Clinically definite Multiple sclerosis.
CDP:	Computerized dynamic posturography.
CIS:	Clinically isolated monophasic syndromes.
CNS:	Central nervous system.
COG:	Center of gravity.
COM:	Center of mass.
COP:	Center of pressure.
CSF:	Cerebrospinal fluid.
CTSIB:	Clinical test of sensory interaction on balance.
DC:	Directional control.
EAE:	Experimental autoimmune encephalomyelitis.
EC:	Eye closed.
EDSS:	Expanded disability status scale.
ENG:	Electronystagmography.
EO:	Eye opened.

EPE:	Endpoint excursion.
GABA:	Gamma amino butyric acid.
IgG:	Immunoglobulin G.
IL:	Interleukins.
LFA:	Lymphocyte function-associated antigen.
LOS:	Limits of stability.
MBP:	Myelin basic protein.
MCT:	Motor control test.
MHC:	Major histocompatibility complex.
MMSE:	Mini-Mental State Examination.
MRI:	Magnetic resonance imaging.
MS:	Multiple sclerosis.
MVL:	Movement velocity.
MXE:	Maximum excursion.
NAA:	N-Acetyl-Aspartate.
NMO:	Neuromyelitis optica.
OGB:	Oligoclonal bands.
PPMS:	Primary progressive Multiple sclerosis.
PRMS:	Progressive relapsing Multiple sclerosis.
PSP:	Progressive supranuclear palsy.
RRMS:	Relapsing remitting Multiple sclerosis.
RT:	Reaction Time.
SOT:	Sensory Organization Test.
SPMS:	Secondary progressive Multiple sclerosis.

TCR: T-cell receptor.
TNF: Tumor necrosis factor.
VEP: Visual evoked potentials.

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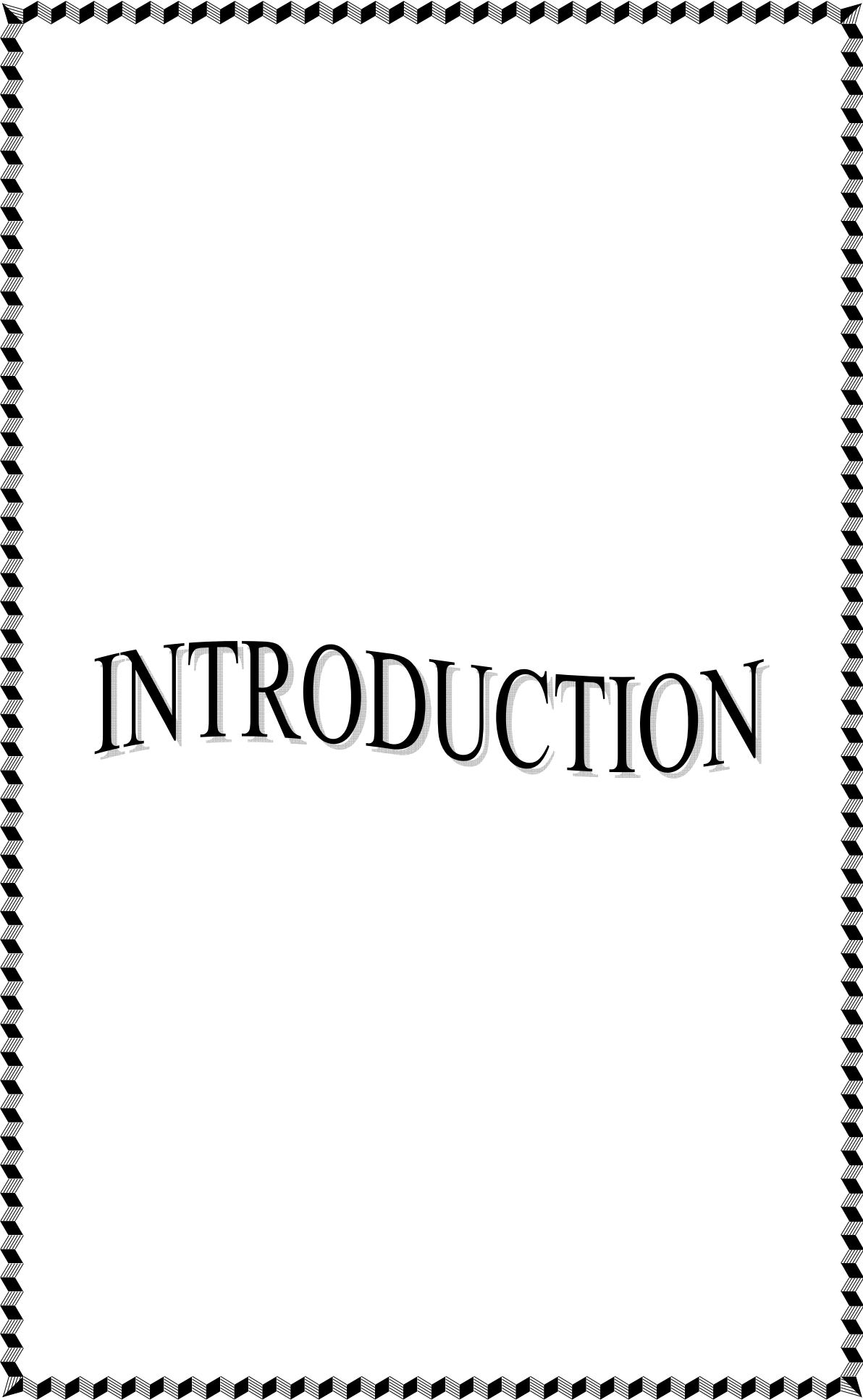
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Abstract

Multiple sclerosis (MS) is a serious neurological disease which affects patients and their environment negatively. Movement, balance and walking impairments related to demyelination, axonal damage and the formation of sclerosis plaques in cerebral hemispheres, brain stem and spinal cord are wide spread in Multiple sclerosis patients. This study was designed to assess postural stability and gait abnormalities in patients with multiple sclerosis and included forty MS patients and forty control subjects, which were subjected to laboratory and radiological investigations, clinical balance scales and posturography tests. The performance of MS patients relative to control was poor in all balance scales and posturography tests. Among MS patients, relapsing remitting form was better in performance than the progressive forms.

Key words: Multiple Sclerosis, Balance, Gait, Posturography.



INTRODUCTION