Acute Neuromuscular Weakness In The Intensive Care Unit

An essay submitted for partial fulfillment of master degree in general intensive care

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Acknowledgment

To **Allah**, goes all my deepest gratitude and thanks for achieving any work in our life.

I would like to express my profound gratitude & deepest appreciation to **Prof. Dr. Mohammed Abd Elkhalek Mohammed Ali**, Professor of Anesthesiology and Intensive care Medicine, Faculty of Medicine, Ain Shams University, for his support, valuable instructions & for the time & effort he devoted throughout the entire course of the study.

I am deeply thankful to **Dr. Fahmy Saad Eskandr**, professor of Anesthesiology and Intensive care Medicine, Ain Shams University, for his willing assistance, enlightening comments, splendid efforts & continuous encouragement along the entire course of the study.

I am deeply thankful to **Dr. Raham Hasan Mostafa**, Lecturer of Anesthesiology and Intensive care Medicine, Ain Shams University, for her support and continuous encouragement along the entire course of the study.

Last but not least, my deep appreciation is expressed to all the staff of Anesthesiology and Intensive care Department, Ain Shams University as well as to all members of my family for their cooperation and encouragement.

Abd Elaziz Ali Mansour Mohammed M.B., B.Ch.

List of Abbreviations

Abbreviation	Meaning			
AchE	Acetylcholinesterases			
ACHR	Acetylcholine Receptor			
A-CIDP	Acute Onset CIDP			
ADH	Antidiuretic Hormone			
ADMA	Asymmetrical-Dimethylarginine			
ADP	Adenosine Diphosphate			
AHC	Anterior Horn Cells			
AIDP	Acute Inflammatory Demyelinating Polyradiculoneuropathy			
AIP	Acute Intermittent Porphyria			
ALA	D-Aminolevulinic Acid			
ALA-D	D-Aminolevulinic Acid Dehydratase			
AMAN	Acute Motor Axonal Neuropathy			
AMD	Acid Maltase Deficiency			
AMSAN	Acute Motor Sensory Axonal Neuropathy			
AP	Adductor Pollicis			
ARDS	Acute Respiratory Distress Syndrome			
ARP	Absolute Refractory Period			
ATP	Adenosine Triphosphate			
ATPase	Adenosine Triphosphatase Enzyme			
BDNF	Brain-Derived Neurotrophic Factor			
BIG IV	Botulism Immune Globulin Intravenously			
Botox	Botulinum Toxin			
BP	Blood Pressure			
oC	Celsius			
$\mathbf{C}\mathbf{a}^2$ +	Calcium			
CDC	Centers For Disease Control			
Œ	Contractile Element			
CEE	Cholinesterase Enzyme			
CEP	Congenital Erythropoietic Porphyria			
CIDP	Chronic Inflammatory Demyelinating Polyradiculoneuropathy			
CIM	Critical Illness Myopathy			
CIN	Critical Illness Neuromyopathy			

List of Abbreviations (cont,)

Abbreviation	Meaning
CINM	Critical Illness Neuromyopathy
CIPNM	Critical Illness Polyneuromyopathy
CK	Creatine Kinase
CK-MM	Creatine Kinase Muscle Mass
\mathbf{Cl}^2	Chloride
cm	Centimeter
CMAP	Compound Muscle Action Potential
CMS	Congenital myasthenic syndrome
CMV	Controlled Mechanical Ventilation
CNS	Central Nervous System
\mathbf{CO}^2	Carbon Dioxide
CoA	Coenzyme A
COPD	Chronic Obstructive Pulmonary Disease
CSF	Cerebrospinal Fluid
DP	Depolarization
EMG	Electromyography
EPP	Erythropoietic Protoporphyria
oF.	Fahrenheit degrees
FFA	Free Fatty Acids
FPP	Familial Periodic Paralysis
FVC	Forced Vital Capacity
GABA	Gamma-Aminobutyric Acid
GBS	Guillain-Barre' Syndrome
GH	Growth Hormone
HCO_3	Bicarbonate
HCP	Hereditary Coproporphyria
HEP	Hepatoerythropoietic Porphyria
HIV	Human Immunodeficiency Virus
HMB	Hydroxymethyl Bilane
HMBS	Hydroxymethylbilane Synthase
HyperPP	Hyperkalemic Form
НуроРР	Hypokalemic Form

List of Abbreviations (cont,)

Abbreviation	Meaning
ICU	Intensive Care Unit
ICU-AW	ICU- Acquired Weakness
lg	Immunoglobulin Antibodies
IIT	Intensive Insulin Therapy
IL-6	Interleukin-6
iNOS	Inducible Nitric Oxide Synthase
IVIG	Intravenous Immunoglobulin
K+	Potassium
Kg	Kilogram
LEMS	Lambert-Eaton Myasthenic Syndrome
LHRH	Luteinizing Hormone-Releasing Hormone
LOS	Lipo-Oligosaccharides
MDMA	Methylenedioxy-Methamphetamine
MEP	Maximal Expiratory Pressure
MEPP	Miniature End Plate Potential
MG	Myasthenia Gravis
MH	Malignant Hyperthermia
MIP	Maximum Inspiratory Pressure
MOD	Multisystem Organ Dysfunction
MRC	Medical Research Council
MRSA	Methicillin-Resistant Staph Aureus
msec	Millisecond
MV	Mechanical Ventillation
mV	Millivolt
MAN	Motor Axonal Neuropathy
MUAPs	Motor Unit Action Potentials
MUP	Motor Unit Potentials
MuSK	Muscle Specific Tyrosine Kinase
Na+	Sodium
NGF	Nerve Growth Factor

List of Abbreviations (cont,)

Abbreviation	Meaning
NMBA	Neuromuscular Blocking Agents
NMJ	Neuromuscular Junction
NMS	Neuroleptic Malignant Syndrome
NOS	Nitric Oxide Synthase
NT-3	Neurotrophin 3
02	Oxygen
PAS	Periodic Acid-Schiff
PBG	Porphobilinogen
PBGD	Porphobilinogen Deaminase
PCR	Polymerase Chain Reaction
PCT	Porphyria Cutanea Tarda
PE	Plasmapheresis Exchange
redox	Reduction/Oxidation
RMP	Resting Membrane Potential
ROS	Reactive Oxygen Species
RP	Repolarization
RRP	Relative Refractory Period
RyR	Ryanodine Receptors
Scv0 ²	Oxyhemoglobin Saturation In Central Venous Blood
SEE	Series Elastic Element
SFEMG	Single-Fiber Electromyography
SIDP	Subacute Inflammatory Demyelinating Polyneuropathy
SIRS	Systemic Inflammatory Response Syndrome
SRNS	Slow Repetitive Nerve Stimulation
SS	Serotonin Syndrome
SSRIs	Selective Serotonin Reuptake Inhibitors
Sv02	Oxyhemoglobin Saturation In Mixed Venous Blood
TNF	Tumor Necrosis Factor
trk	Tyrosine Kinase
ULN	Upper Limit Of Normal
VC	Vital Capacity
VP	Variegate Porphyria

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Introduction