بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY

Can Plasma Cholinesterase act as an Adjuvant Prognostic Index in acute Burn Cases? A Prospective Clinical Study

Thesis

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Master degree in ***Forensic Medicine and Toxicology***

By

Yasmine Fikry Mohamed Mohamed
Demonstrator of Forensic Medicine and Toxicology

Under supervision of

Prof. Amany Elsayed Abdel Rahman
Professor of Forensic Medicine and Toxicology
Faculty of Medicine - Ain Shams University

Prof. Mohamed Ahmed Sayed Mostafa El-Rouby
Professor of Plastic and Reconstructive Surgery
Faculty of Medicine - Ain Shams University

Dr. Dalia Mohamed Nabil Zaki
Lecturer of Forensic Medicine and Toxicology
Faculty of Medicine - Ain Shams University

Faculty of Medicine – Ain Shams University

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List of Contents

Title	Page No.

List of Abbreviations i
List of Tables ii
List of Figures iv
Introduction 1
Aim of the Work 3
Review of Literature
- Structure of Skin 4
- Burn Classification 7
- Pathophysiology of Burn 24
- Complications of Burn 30
- Management 39
- Burn Indices 44

Patients and Methods 52
Results 55
Discussion 84
Conclusion 104
Recommendations 105
Summary 106
References 113
Arabic Summary ١

List of Abbreviations

Abb.	Full term

ACS ..... *Abdominal compartment syndrome*

AChE ..... *Acetylcholinesterase*

APPs ..... *Acute Phase Proteins*

AUC ..... *Area Under curve*

BCG ..... Bromocresol green

BSA..... *Burn surface area*

BChE ..... *Butyrylcholinesterase*

ChE..... *Cholinesterase*

DAMP ..... *Danger-associated molecular pattern molecules*

HAS ..... *Human albumin solutions*

IL-6..... *Interleukin 6*

IL-8..... *Interleukin 8*

IVF..... *Intra venous fluid*

MIF..... *Macrophage migration inhibitor factor*

NPV ..... *Negative predictive value*

NS..... *Normal saline*

OMP ..... *Oxidati-vely modified proteins*

PL ..... *Platelets*

PPV..... *Positive predictive value*

PCT..... *Procalcitonin*

ROC ..... *Receiving operating characteristic curve*

TBSA ..... *Total burn surface area*

TNF-α ..... *Tumour necrosis factor alpha*

List of Tables

Table No.	Title	Page No.
Table (A):	Management of burn	43
Table (B):	Management of burn according to burn thickness	43
Table (1):	Descriptive data of the acute burned group	55
Table (2):	Student t test, comparison between control and acute burned groups as regards studied parameters in day 1 sample:	56
Table (3):	ANOVA one-way statistical analysis of the studied parameters between the control group and the acute burned group in 1st, 5th and 14th day samples:	59
Table (4):	Spearman correlation coefficients test between the studied parameters levels and the total burn surface area (TBSA):	63
Table (5):	Independent -t-test, comparison between survivors and non survivors sub groups as regards studied parameters at different studied periods:	70
Table (6):	Spearman correlation coefficient test between the studied parameters and TBSA in survivors and non survivors burned patients:	74
Table (7):	Cut off points, AUC, sensitivity and specificity for plasma cholinesterase, albumin and CRP in acute burned group in day 1 sample:	78
Table (8):	Cut off points, AUC, sensitivity and specificity for plasma cholinesterase in acute burned group in the different study periods:	79
Table (9):	Cut off points, AUC, sensitivity and specificity for platelets in acute burned group in the different study periods:	80

List of Tables (Cont...)

Table No.	Title	Page No.
Table (10):	Cut off points, AUC, sensitivity and specificity for albumin in acute burned group in the different study periods:	81
Table (11):	Cut off points, AUC, sensitivity and specificity for CRP in acute burned group in the different study periods:	82
Table (12):	Plasma cholinesterase sensitivity with different studied parameters in acute burned group:	83

List of Figures

Fig. No.	Title	Page No.
Figure (A):	Rule of Nine	13
Figure (B):	Rule of Nine	14
Figure (1):	Comparison between acute burned group and control group as regards plasma cholinesterase level in day 1.	57
Figure (2):	Comparison between acute burned group and control group as regards albumin level in day 1.	57
Figure (3):	Comparison between acute burned group and control group as regards CRP level in day 1.	58
Figure (4):	Plasma cholinesterase level at different study periods.	60
Figure (5):	Platelets level at different study periods.	60
Figure (6):	Serum albumin level at different study periods.	61
Figure (7):	C Reactive protien level at different study periods.	61
Figure (8):	Correlation between TBSA and plasma cholinesterase level (day1).	64
Figure (9):	Correlation between TBSA and plasma cholinesterase level (day 5).	64
Figure (10):	Correlation between TBSA and plasma cholinesterase level (day14).	65
Figure (11):	Correlation between TBSA and platelets count (day1).	65
Figure (12):	Correlation between TBSA and platelets count (day5).	66
Figure (13):	Correlation between TBSA and platelets count (day14).	66

List of Figures (Cont...)

Fig. No.	Title	Page No.
Figure (14):	Correlation between TBSA and albumin level (day 1).	67
Figure (15):	Correlation between TBSA and albumin level (day 5).	67
Figure (16):	Correlation between TBSA and albumin level (day 14).	68
Figure (17):	Correlation between TBSA and CRP level (day5).	68
Figure (18):	Correlation between TBSA and CRP level (day 14).	69
Figure (19):	The difference between the level of plasma cholinesterase in survivors and non survivors groups at different study periods.	71
Figure (20):	The difference between the level of platelets in survivors and non survivors groups at different study periods.	71
Figure (21):	The difference between the level of albumin in survivors and non survivors groups different study periods.	72
Figure (22):	The difference between the level of CRP in survivors and non survivors groups at different study periods.	72
Figure (23):	Correlation between plasma cholinesterase and TBSA in day 1 in survivors group.	75
Figure (24):	Correlation between plasma cholinesterase and TBSA in day 14 in survivors subgroup.	75
Figure (25):	Correlation between CRP and TBSA in day 1 in survivors subgroup.	76
Figure (26):	Correlation between CRP and TBSA in day 5 in survivors subgroup.	76
Figure (27):	Correlation between CRP and TBSA in day 14 in survivors subgroup.	77

List of Figures (Cont...)

Fig. No.	Title	Page No.
Figure (28):	ROC curves for sensitivity and specificity for plasma cholinesterase, albumin and CRP in acute burned patients in day 1 sample	78
Figure (29):	ROC curves for sensitivity and specificity for plasma cholinesterase in day 1, 5 and 14 samples.	79
Figure (30):	ROC curves for sensitivity and specificity for platelets in day 1, 5 and 14 samples.	80
Figure (31):	ROC curves for sensitivity and specificity for albumin in day 1, 5 and 14 samples.	81
Figure (32):	ROC curves for sensitivity and specificity for CRP in day 1, 5 and 14 samples.	82

INTRODUCTION

A burn is a tissue injury from thermal application or from the absorption of physical energy or chemical contact ***(Nascimbeni et al., 2018)***.

Millions of people around the world are hospitalized for the treatment of burn each year. The daily cost of care for a burn victim is tremendous. The economic loss to any nation is staggering. This includes painful and lengthy hospitalization, multiple stages of surgery, permanent disfigurement and disability, prolonged rehabilitation, loss of income. Also job and enormous financial burden on both the burned victims and community**.** Burn itself and its complications can lead to permanent changes in patient life and that of his family ***(Friedstat et al., 2017)***.

The importance of burn prognostic indices lies not only on the prediction of the outcome of an individual patient, but also on the distribution of the patients in comparable groups of severity for therapeutic purposes. Although the realistic prediction of the outcome of an individual patient is the first and main question of patient family, the quantitative measurement of a patient illness using these indices is of great importance for the burn center in deciding its therapeutic policy. The more accurate the index, the more useful it is for the latter purpose for these reasons ***(Nascimbeni et al., 2018)***.

Since several complications may occur after burn injury and some of them are fatal, the allegation of negligence may not be unusual ***(Nakache et al., 2011).***

The patient relatives may claim that the death is the result of the improper management of the treating medical team rather than the unavoidable complications ***(Snell et al., 2013).***

This allegation may arise also in homicidal deaths, when death in burned victims occurred after duration of hospital admission. It is of great medico-legal importance in these cases to decide if the death was due to physician negligence or as an anticipated consequence of burn injury. This reveals the need for investigating predictors of mortality in cases of burn injuries that can be determined in early stage of burn before start of medical interventions to reflect severity of injury and body response to it ***(Aktas et al., 2018).***

In addition, prediction of outcome for burned patients is essential to support clinical decision making, improve overall patient management, alleviate individual suffering, minimize the complications and improve hospital resource allocation ***(Walczak and Velanovich, 2018).***