بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / حسام الدين محمد مغربي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات:
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Study of Hematological Parameters in Patients with Scorpion Envenomation Presented to the Poison Control Center of Ain Shams University Hospitals

Thesis

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Asmaa M. Magdy

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List of Abbreviations

Abb.	Meaning
ANOVA	*: Analysis of variance*
A. australis	*: Androctonus australis*
AUC	*: Area under the curve*
APTT	*: Activated partial thromboplastin time*
DBP	*: Diastolyic blood pressure*
fL	*: Femtoliters*
g/dL	*: Gram/deciliter*
Hb	*: Hemoglobin concentration*
Hct	*: Hematocrit*
INR	*: International normalized ratio*
LD	*: Lethal Dose*
mmHg	*: Millimeter mercury*
mEq/L	*: Milliequivalent/liter*
MPV	*: Mean platelet volume*
min	*: Minute*
μL	*: Microlitre*
N	*: Number*
NS	*: Non-significant*
NPV	*: Negative predictive value*
PI	*: Platelet indices*
P-LCR	*: Platelet large cell ratio*

PCC-ASUH	*: Poison Control Center of Ain Shams University Hospitals*
PDW	*: Platelet distribution width*
PT	*: Prothrombin time*
PCT	*: Plateletcrit*
PPV	*: Positive predictive value*
ROC	*: Receiver Operating Characteristic*
RBC	*: Red blood cell count*
SD	*: Standard deviation*
SBP	*: Systolic blood pressure*
Sp.	*: Species*
TLC:	*: Total leukocytic count*
° C	*: Degree Celsius*
%	*: Percentage*

INTRODUCTION

Scorpion envenomation constitutes a genuine problem of public health all over the world, especially in North-Saharan Africa ***(Abd El-Aziz et al., 2019).***

Old World and New World scorpions are different in venom composition, clinical presentation and severity, and in turn, various therapeutic approaches ***(Abroug et al., 2020).***

Biologically active substances existing in scorpion venom are involved in severe and often fatal clinical complications; as scorpion venoms constitutes a mixture of cardiotoxins, nephrotoxins, hemolytic toxins, and neurotoxins ***(Cesaretli and Ozkan, 2010)*** and ***(Abd El-Aziz et al., 2019).***

Victims such as children and the elderly who suffer from respiratory and/or cardiovascular diseases become at high risk after scorpion envenomation if not managed adequately and quickly ***(Santos et al., 2016)***.

Systemic manifestations occur in about 5% of cases after a scorpion sting. The main life-threatening conditions are cardiopulmonary consequences and are attributed to the mortality in about 1% of all scorpion stings ***(Abroug et al., 2020).***

The balance between pro-inflammatory and anti-inflammatory cytokines are released by the host in various proportions according to the different species of scorpions. These mediators regulate the extent of inflammation, resulting in major clinical effects such as cardiac dysfunction, pulmonary oedema and shock ***(Petricevich, 2010).***

Platelet indices (PI) including mean platelet volume (MPV), platelet distribution width (PDW), and plateletcrit (PCT) can be altered in different inflammatory diseases, such as inflammatory bowel disease, rheumatoid arthritis, familial mediterranean fever ***(Konca et al., 2014).***

In addition, many studies have been conducted recently with the help of hematological parameters, especially, the total and differential leukocytic count together with (PI) as a potential new biomarker to predict the severity of scorpion envenomation and other diseases; infectious diseases, cardiovascular diseases, and immunologic diseases ***(Horoz et al., 2020).***

The limited resources with shortage of intensive-care facilities in scorpion endemic regions, account for the 3,250 deaths /year due to envenomation. While, adequate care can avoid serious consequences ***(Abroug et al., 2015)***.

Despite the fatal consequences that occur due to scorpion envenomation, it is not represented enough in the clinical research creating the label of "neglected disease" ***(Abroug et al., 2019)***.

Up till 2020, limited studies have correlated the possible alterations in the platelet indices as well as the components of complete blood picture to the severity of scorpion envenomation. The articles that describe the relation between these hematological effects and antivenin therapy are still insufficient and may focus on one aspect than others.

Aim of the Work

The aim of this study is to investigate the possible alterations in some hematological parameters and their correlations to the severity of scorpion envenomation. In addition to assessment of the relation between these hematological alterations and antivenin therapy.