

Dedication

To my:

- Beloved and blessed parents Zeinb and Khalid who did everything for me.

Acknowledgment

Primary my praise and thanks should be to Allah, the almighty most gracious and most merciful, who granted me the serenity, means of strength and practice to accomplish this work.

I am deeply indebted to my supervisor Dr: **Khalda Mirghani Hamza** for her valuable help and guidance during this study I am also great to his patience assistance and invaluable device.

My appreciation is extend to Dear sisters, brothers, my friends, my aunt ,all academic staff, technologist and other members of the department of haematology Sudan University of science and technology and Al-Gdarif hospital staff.

Abstract

This is an analytical case-control study, conducted at Al- Gdarif Teaching Hospital during the period from January to April 2010. The aim of this study was assessment of the haemostatic parameters (platelet, PT, APTT and TT) and haemoglobin, tests in visceral leishmaniasis patients attended Al-GadarifTeachingHospital.

Fifty visceral leishmaniasis patients were informed about the study and agreed for participation. The study population was divided into two groups according to sex, 5 groups according to age, 15 groups according to tribe.

Five ml of venous blood was bleed 2.5mlin EDTA containers and 2.5 ml in tri sodium citrate containers and investigated for the Hb level, platelet count, PT, APTT and TT tests.

Fully automated haematological analyzer Sysmexwas used for Hb, platelet, and manual analysis for PT, APTT and TT.

All visceral leishmaniasis patients had mean values of Platelet= 115.000cell/mm^3 decrease significant than control mean value = 198.000cell/mm^3 ,PT=16.4second, prolong significant than control mean value = 14.5 second, P.value = 0.029. INR=1.5, increased but not significant than control mean value = 1.4, P.value = 0.288.APTT=31.8second, prolonged significant than control mean value = 28.3,P.value = 0.001.TT=9.3second, prolonged than control mean value = 9 second but in significant, p. value = 0.46.andHb = 8.4g/dl,decrease significant than control mean value of Hb 13g/dl, P.value = 0.000.

مستخلص الأطروحة

هذه دراسة تحليلية تعتمد علي المقارنة بين الحالة والمعيار المفترض تم إجراؤها في الفترة ما بين شهر يناير إلي شهر ابريل ٢٠١٠ بمستشفى القصارف التعليمي لقياس عوامل التجلط ومستوي خضاب الدم بمرضي اللشمانيا الحشوية.

أخذت خمسون عينة من مرضي اللشمانيا الحشوية بعد إخطارهم بهذه الدراسة وأهميتها واخذ موافقتهم علي المشاركة.

قسم مرضي اللشمانيا إلي ذكور وإناث في خمسة مجموعات عمرية وخمسة عشر قبيلة وأربعة مجموعات علي حسب الجرعات الدوائية، تم اخذ خمسة مل من الدم من كل مشارك في الدراسة وقسمت إلي ٢.٥ مل في حاويات تحتوي علي مانع تجلط (EDTA) و ٢.٥ مل في حاويات تحتوي علي سترات الصوديوم الثلاثية.

تم استخدام جهاز (Sysmex) لتحليل خضاب الدم والصفائح الدموية والذي يعمل أوتوماتيكيا وتم تحليل زمنالبروثرومبين وزمن الثرومبوبلاستين الجزئي المنشط وزمن الثرومبين بالطريقة اليدوية. كان لجميع مرضي اللشمانيا الحشوية القيم المتوسطة التالية :

الصفائح الدموية $115.000 \text{ cell/mm}^3$ أظهرت انخفاضا كبيرا من المعيار $198.000 \text{ cell/mm}^3$ بمستوي معنوية $= 0.000$ ، زمن البروثرومبين $= 16.4 \text{ second}$ إطالة كبيرة من قيمة المعيار $= 14.5$ ثانية بمستوي معنوية $= 0.029$ ، INR $= 1.5$ زيادة ولكن ليست بكبيره من المعيار $= 1.4$ بمستوي معنوية $= 0.288$ ، زمن الثرومبوبلاستين الجزئي $= 31.8 \text{ second}$ إطالة كبيرة من قيمة المعيار $= 28.3 \text{ second}$ بمستوي معنوية $= 0.001$ ، زمن الثرومبين $= 9.3 \text{ second}$ إطالة ليست بكبيره من قيمة المعيار $= 9 \text{ second}$ بمستوي معنوية $= 0.46$. خضاب الدم $= 8.4$ ، انخفاضا كبيرا من المعيار $= 13 \text{ g/dl}$ بمستوي معنوية $= 0.000$.

List of abbreviation

2,3- DPG	2,3 di phosphglycerate
ADP	Adenosine diphosphate
AGM	Aorta-gonads-mesonephros
ALA	Aminolevulinic acid
APTT	Active Partial thromboplastin time
C3, C4, C5	Complement protein
Ca cl	Calcium chloride
cAMP	Cyclic adenosine monophosphate
CD	Cluster differentiation
CFu	Clony forming unit
CL	Cutaneous leishmaniasis
COA	Co enzyme A
DAT	Direct agglutination test
DVT	Deep vein thrombosis
E PCR	Endothelial PC receptor
EDTA	Ethylene diamine tetra acetic acid
FDPs	Fibrinogen degradation product
GEMM	Granulocyte eosinophil monocyte megakaryocyte
GM- CSF	Granulocyte megakaryocyte - colony stimulating factor.
Gp	Glycoprotein
Hb	Haemoglobin
HCT	Haematocrit
HGB	Haemoglobin
HIV	Human immune virus
HMWK	High molecular weight kallikrein
IFN- γ	Interferon gamma
IgA	Immunoglobulin A
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IL	Interleukin
INR	International normalize ratio
ISI	International sensitivity index
ITP	Idiopathic thrombocytopenic purura
MCH	Mean cell haemoglobin
MCHC	Mean cell haemoglobin concentration
MCL	Muco Cutaneous leishmaniasis
MCV	Mean cell volume

MPV	Mean platelet volume
NO	Nitric oxide
PAP	Plamin anti plasmin complex
PC	Protein C
PE	Pulmonary embolism
PPP	Platelet poor plasma
PT	Prothrombin time
RBCS	Red blood cells
RDW	Red cell distribution width
TAFI	Thrombin activated fibrinolysis inhibitor
TAT	Thrombin anti thrombin
TFPI	Tissue factor pathway inhibitor
TGF	Trans forming growth factor
TNF	Tumor necrosis factor
tPA	Tissue plasminogene activator.
TT	Thrombin time
TXA ₂	Thromboxane A ₂
TXB ₂	Thromboxane B ₂
uPA	Urokinaseplasminogene activator
VL	Visceral leishmaniasis
VWF	Vonwillebrand factor
WBCs	White blood cells

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