

Dedication

To my lovely father who gives me everything and who have always been my guiding light, shining on every single step in my life.

To my dear mother.

To my lovely sisters.

To my beloved grandmother.

To my kind colleagues and friends I dedicated this work.

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: **Munsoor Mohammed Munsoor** for his valuable help and guidance during this study I am also great to his patience assistance and invaluable device.

My appreciation is extend to my Dear sisters, brothers, my friends, my aunt ,all academic staff, technologist and other members of the department of Haematology University of Science Technology and Khartoum North Hospital staff.

Abstract

This is an analytical case-control study, conducted at Khartoum north Teaching Hospital during the period from January to June 2010. The aim of this study was Evaluation of some haemostatic parameters (platelet count, PT ,APTT and INR) in heart disease patients attended Khartoum north Teaching Hospital.

Sixty patients with heart disease were informed about the study and agreed for participation. The study population was divided into three groups according to type of disease, 29 ischemic heart diseases, 19 heart failure, 12 Angina.

Five ml of venous blood was taken 2.5ml in EDTA containers and 2.5 ml in tri sodium citrate containers and investigated for the platelet count, PT, APTT and INR.

Fully automated haematological analyzer Sysmex was used for platelet count, and automated coagulometer analysis for PT ,APTT and INR .

All heart disease patients had mean values of Platelet = $253.000 \text{ cell/mm}^3$ normal compared with control value = $265.000 \text{ cell/mm}^3$, PT=17.06second, prolong compared with control mean value = 14.5 second, P.value = 0.01. INR=1.4, increased compared with control mean value = 1.2, P.value = 0.007. APTT = 32.5second, normal compared with control mean value = 30.6, P.value = 0.65.

The Research conclude that the heart disease affect the prothrombin time.

النتائج والنتائج

هذه دراسة تحليلية تعتمد علي المقارنة بين الحالة والمعيار المفترض تم إجراؤها في الفترة ما بين شهر يناير إلي شهر يونيو و 2010 بمستشفى الخرطوم بحري التعليمي لقياس زمن البروثرومبين وزمن الثرمبوبلاستين الجزئي المنشط وتعداد الصفائح الدموية بمرضي القلب. أخذت ستون عينة من مرضي القلب بعد إخطارهم بهذه الدراسة وأهميتها واخذوا موافقتهم علي المشاركة.

قسم مرضي القلب إلي ذكور وإناث في ثلاثة مجموعات علي حسب نوع المرض، تم اخذ خمسة مل من الدم من كل مشارك في الدراسة و قسمت إلي 2.5 مل في حاويات تحتوي علي مانع تجلط (EDTA) و 2.5 مل في حاويات تحتوي علي سترات الصوديوم الثلاثية. تم استخدام جهاز (Sysmex) لتحليل الصفائح الدموية وتم تحليل زمن البروثرومبينوزمنالثرمبوبلاستين الجزئي المنشط. كان لجميع مرضى القلب القيم المتوسطة التالية :

الصفائح الدموية $253.000 \text{ cell/mm}^3$ أظهرت نتائج طبيعية مقارنة بالمعيار = $265.000 \text{ cell/mm}^3$ بمستوي معنوية = 0.65 ، زمن البروثرومبين = 17.17 ثانية إطالة كبيرة مقارنة بقيمة المعيار = 14.5 ثانية بمستوي معنوية 0.01 ، $INR = 1.4$ زيادة كبير مقارنة بالمعيار = 1.2 بمستوي معنوية = 0.007 ، زمن الثرمبوبلاستين الجزئي = 32.5 ثانية نتيجة طبيعية مقارنة بقيمة المعيار = 30.6 ثانية بمستوي معنوية = 0.12 .

خلاصة : نخلص الي ان امراض القلب تؤثر بشدة علي زمن البروثرومبين

List of abbreviation

Abbreviation	Item
AA	Arachidonic acid
ADP	Adenosine Di phosphate
aPTT	Activated partial thromboplastin time
AT-III	Anti-thrombin
ATP	Adenosine Tri phosphate
AV	Atrioventricular node
BSS	Bernard soulier syndrom
BT	Bleeding time
CABG	Coronary artery bypass surgery
CHD	Chronic heart disease
CSF	colony-stimulating factors
DIC	disseminated intravascular coagulation
ECG	electrocardiogram
EDTA	Ethylene dimine tetra acetic acid
ELISA	enzyme-linked immunosorbent assay
EPI	Epinephrine
FDPs	fibrin degradation products
FSPs	fibrin split products
GP	Glycoprotein
HIV	Human immune virus
HMWK	high-molecular-weight kininogen
IgG	Immunoglobulin gamma
IgM	Immunoglobulin mue
IHD	Ischemic heart disease
ITP	idiopathic thrombocytopenic purpura
KCCT	Kaolin cephalin clotting time
MI	Myocardial infraction
PAI	plasminogen activator inhibitor
PDGF	platelet derived growth factor
PFA	Platelet function analyzer
PGG2	prostaglandin G2
PIVKA	proteins formed in vitamin K absenc
PK	prekallikrein
PRP	platelet rich plasma
PT	prothrombin time
PTTK	Partial thromboplastin time with koalin

RE	reticuloendothelial system
STEMI	ST-elevation MI
TF	tissue factor
TFPI	tissue factor pathway inhibitor
TT	Thrombin time
u-PA	urokinase-type plasminogen activator
vWF	von Willebrand factor
WBC	White blood cells

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