

Dedication

***To who give me the life Allah
To my mother for continuous
encouragement
To my father who build me to future
To my Brothers
Sisters
Friends
To my lovely group-Hematology
Department
Finally I dedicate this project for
everyone gives me advice & teach me
a letter.***

Emad

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List of Abbreviations

ARF	Acute renal failure
APTT.....	Activated partial thromboplastin time
ADP	Adenosine diphosphate
ACEIs	<u>Angiotensin converting enzyme inhibitors</u>
ARAs	<u>Angiotensin II receptor antagonists</u>
ACA	Anticardiolipin antibodies
AV fistula	Arteriovenous fistula
BFGF	Basic fibroblast growth factor
CKF.....	Chronic renal failure

CRP.....C-reactive
 proteins

ESRF.....End stage renal
 disease

GFRGlomerular
 filtration rate

HD
Hemodialysis

HLA.....Human leukocyte
 antigens

IL-
 6.....Interleukin-
 6

LA.....lupus
 anticoagulant

PD.....Peritoneal
 dialysis

pmpPer million
 population

PAPPlasmin-antiplasmin
 complex

PDGFPlatelet-derived growth
 factor

PTFE graftPoly
 tetrafluoroethylene graft

PTProthrombin
time
rhEPORecombinant
erythropoietin
RRTRenal Replacement
Therapy
vWF.....Von Willebrand
factor

Abstract

This study was conducted in Dr. Salma Center for hemodialysis in Khartoum from January to June 2010. The objective of this study is to determine effect of hemodialysis as risk factor of thrombosis in end stage renal failure patients. Samples were collected randomly from 50 patients under haemodialysis.

Blood samples were collected, 2.5 ml in citrate anticoagulant and analyzed by automated blood coagulation analyzer for measurement of PT and APTT by seconds and D-dimer Redder II to measurement D-dimer concentration by mg/L compared to normal control.

The results showed that 14% of the patients were suffering from risk of thrombotic embolism with concentration of D-dimer $>0.3\text{mg/L}$ in D dimer and 86% were normal, 62% of patients under dialysis were male, while 38% females and the mean age was 43 years old.

Also showed that there was insignificant difference in PT which 16.1 sec with *P.value* (0.173), and significant difference in APTT which 73.8 sec with *P.value* (0.000), D dimer level was 2.26mg/L with *P.value* (0.012).

PT, APTT, and D dimer level were increased with increasing of duration of dialysis, but the difference was statistically insignificant.

On the other hand increasing age of patients lead to increase possibility of thrombosis significantly by an increase of D dimer concentration, but insignificantly in PT and APTT.

Finally there was significant differences in APTT in patients were treated with recombinant erythropoietin and iron supplement, but the difference was insignificant for PT, and D dimer concentration.

مستخلص الاطروحة

هذه الدراسة اجريت بمركز دكتورة سلمى لغسيل الكلى في الخرطوم في الفترة من يناير حتى يونيو 2011 وكان الهدف من هذه الدراسة التعرف على تاثير الغسيل الدموي في زيادة خطر التجلط عند مرضى المراحل المتأخرة من الفشل الكلوي. جمعت العينات عدليا من 50 من المرضى الذين يعالجون بالاستصفاء الدموي.

جمعت 2.5مليتر من الدم في مانع التجلط وحللت بجهاز قياس تجلط الدم الدموي الاوتوماتيكي لقياس زمن البرثرمين وزمن الثرومبولاستين المنشط الجزئي بالثواني وكذلك بجهاز قارئ دايمر من وع دي 2 لقياس تركيز البروتين دايمر من نوع دي بالمليجرم مقارنة مع الاصحاء.

وجدت الدراسة أن 14% يعانون من خطر انغلاق الاوعيه بالجلطات بتركيز اكبر من ثلاثة من عشرة في بروتين دايمر من نوع دي و 86% طبيعيين. كما وجدت ان 62% من المرضى كانوا رجال بينما 38% كانوا نساء وان متوسط الاعمار كان 43 سنة. ووجدت ان هنالك فرق ذو دلالة غير احصائية في زمن البرثرميين وكانت النتيجة 16.1 ثانية و فرق ذو دلالة احصائية في زمن الثرومبولاستين المنشط الجزئي وكانت النتيجة 73.8 ثانية . وكذلك مستوى البروتين المسمى دي دايمر ونتيجته 2.26 مليجرام في اللتر

ايضاً وجدت الدراسة زيادة في زمن البرثرميين وزمن الثرومبولاستين المنشط الجزئي بالثواني وكذلك تركيز البروتين دايمر من نوع دي مع زيادة مدة الغسيل لكنها ليست ذات دلالة احصائية. ومن الجانب الاخر زيادة متوسط اعمار المرضى تؤدي الي زيادة امكانية تجلط الدم بدلالة احصائية في تركيز بروتين دايمر من نوع دي ، ولكنها غير احصائية في زمن البرثرميين . وزمن الثرومبولاستين المنشط الجزئي

واخيراً وجدت الدراسة فرق ذو دلالة احصائية في المرضى الذين يعالجون بهرمون الاريثروبويتين المصنع وكذلك ملحقات الحديد في زمن الثرومبولاستين المنشط الجزئي ولكنها لم تجد دلالة احصائية في زمن البرثرميين وتركيز بروتين دي دايمر