

بسم الله الرحمن الرحيم

قال تعالى :

لَإِنَّ رَبَّكُمُ اللَّهُ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَىٰ عَلَى الْعَرْشِ يُغْشِي اللَّيْلَ النَّهَارَ

يَطْلُبُهُ حَيْثُ كَانَتْ الشَّمْسُ وَالْقَمَرُ وَالنُّجُومُ مُسَخَّرَاتٌ بِأَمْرِهِ إِنَّ اللَّهَ خَلَقَ وَالْأَمْرُ لِلَّهِ رَبِّ الْعَالَمِينَ

سورة الأعراف الآية (٥٤)

Dedication

Our fathers . . .

Who teaching us the meaning of the given

**To our mothers that lactating us the meaning of patience and
loyalty**

To our brothers and sisters

To the candles of since and acknowledgment

Our teachers

To our friends who are share us in our roads.

Acknowledgment

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Abstract

This is a hospital based, analytical, descriptive, cross sectional and case control study was conducted in Khartoum teaching hospital during period from 5 March 2012 to 22 June 2012, aimed to determine prothrombin time (PT), international normalization ratio (INR), activated partial thromboplastin time (APTT) and fibrinogen level among liver disease patients. Blood samples were collected from sixty patients with liver diseases(chronic liver disease, hepatitis B and C viruses, cirrhosis, jaundice and hepatocellular carcinoma) as case group and thirty samples were collected from healthy individuals as control group into citrate containers.

Citrate blood samples were centrifuged to harvest platelets poor plasma for measurements of PT, INR, APTT and fibrinogen level using sysmex CA500 coagulometer. Data obtained were analyzed using Statistical Package of Social Sciences (SPSS version 11.5). The result revealed that there was significant increase in PT, p. value (0.00), INR p. value (0.00) , APTT p. value (0.00) and significant decrease in fibrinogen level p. value (0.00) among patients of liver diseases when compared with control group. There were no any changes in PT, INR, APTT and fibrinogen level related to age and gender.

The study concluded that PT ,INR and APTT in patients with liver diseases were increased and Fibrinogen level was decreased in liver diseases compared to normal control.

مستخلص الدراسة

أجريت هذه الدراسة، الوصفية، التحليلية والمقطعية (حالة وحالة ضابطه) بمستشفى الخرطوم التعليمي في الفترة من الخامس من مارس لسنة ألفين واثنى عشر حتى الثاني والعشرين من يونيو لسنة ألفين واثنى عشر وهدفت هذه الدراسة لقياس زمن البروثرومبين، زمن الثرومبوبلاستين المنشط الجزئي ومعدل السيولة العالمي ومعدل الفبرينوجين في مرضي الكبد (مرض الكبد المزمن، التهاب الكبد الفيروسي ب و س، التليف الكبدي، اليرقان وسرطان الخلايا الظهارية الكبدية) .

حيث تم جمع ستين عينة دم مأخوذة من الوريد في حاويات سترات الصوديوم من مرضي الكبد وكذلك تم جمع ثلاثين عينة دم من أفراد أصحاء كعينة ضابطه وتم تحليل النتائج باستخدام برنامج الحزم الإحصائية للمجتمع الإصدار (11.5) .

تم فصل البلازما وأجريت اختبارات السيولة الآتية : زمن البروثرومبين، معدل السيولة العالمي ، زمن البروثرومبين المنشط الجزئي ومعدل الفبرينوجين باستخدام جهاز sysmex CA500 Coagulometer.

أوضحت الدراسة أن هنالك زيادة بدرجة معنوية في مرضي الكبد بكل من زمن البروثرومبين قيمة ب (0.00) . معدل السيولة العالمي قيمة ب (0.00) وزمن الثرومبوبلاستين المنشط الجزئي قيمة ب (0.00) عند مقارنتها مع المجموعة الضابطة.

كما أوضحت انخفاض معدل الفبرينوجين للمصابين بمرض الكبد بدرجة معنوية قيمة ب (0.00). عند المقارنة مع المجموعة الضابطة.

ليست هنالك اختلافات بدرجة معنوية في اختبارات سيولة الدم تبعا لعامل العمر والنوع . خلصت الدراسة لوجود ارتفاع في زمن البروثرومبين، معدل السيولة العالمي، زمن الثرومبوبلاستين المنشط الجزئي وانخفاض ف مستوى الفبرينوجين لدي مرضي الكبد

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List of Abbreviations

α2-PI	Alpha 2 plasminogen inhibitor
AAT	alpha-antitrypsin
ADP	Adenosine diphosphate
AFP	Alpha fetoprotein
ALP	Alkaline phosphates
ALT	Alanine aminotransferase
Anti-HAV	anti-Hepatitis A virus
Anti-HBe	Anti hepatitis e
APTT	Activated partial thromboplastin time
AST	Aspartate aminotransferase
CA19-9	Cancer Antigen 19-9
CDC	Centers for Disease Control
CK	Creatine kinase
CLD	Chronic liver disease
CMV	Cytomegalovirus
CT	Computed tomography
DCP	Des-y-carboxyprothrombin
DIC	Disseminated intravascular coagulation
DNA	Deoxy ribonucleic acid
EBV	Epstein-Barr virus
ESLD	End stage liver disease
FDPs	fibrin degradation products
GGT	Gamma glutryle transferase
HAV	Hepatitis A virus
HBeAg	Hepatitis e antigen
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus

HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus
HRS	Hepatorenal syndrome
HSV	Herps simplex virus
IL-6	Interleukin 6
ISI	International Sensitivity Index
ITP	Idiopathic thrombocytopenia
LD	Lactate dehydrogenase
LDL	Low-density lipoprotein
MELD	Model for end stage liver disease
PAIgG	platelet associated immunoglobulin's G
PAI-1	Plasminogen activator anhibitor1
PBC	Primary biliary cirrhosis
PIVKA-2	Protein induced by vitamin K antagonists 2
PT	Prothrombin time
PSC	Primary sclerosing cholangitis
PTHrP	Parathyroid hormone-related peptide production
RNA	Ribonucleic acid
SAAG	Serum-ascites albumin gradient
SD	Standard deviation
TAFI	Tissue activatable fibrinolysis inhibitor
TAT	Thrombin–antithrombin
TF	Tissue factor
TNF	Tumour necrosis factor-alpha
TPA	Tissue plasminogen activator
TPO	Thrombopoietin
VWF	Von Willebrand factor