

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى :

إِنَّ رَبَّكُمُ اللَّهُ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ فِي سَيَّةٍ أَيَّامٍ ثُمَّ اسْتَوَى عَلَى الْعَرْشِ يُعْشِي اللَّيْلَ النَّهَارَ

يَطْلُبُهُ حَتَّىٰ وَالشَّمْسَ وَالقَمَرَ وَالنُّجُومَ مُسَحَّرَاتٍ يَأْمُرُهُ أَلَّا هُوَ الْحَالُقُ وَالْأَمْرُ بِإِنْسَكَ اللَّهُ رَبُّ 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 والمقطعة (حالة وحالة ضابطه) بمستشفى الخرطوم التعليمي في الفترة من الخامس من مارس لسنة ألفين واثني عشر حتى الثاني والعشرين من يونيو لسنة ألفين واثني عشر وهدفت هذه الدراسة لقياس زمن البروثرومبين، زمن الترومبوبلاستين المنشط الجزئي ومعدل السيولة العالمي ومعدل الفبرينوجين في مرضي الكبد(مرض الكبد المزمن، التهاب الكبد الفيروسي ب و س، التليف الكبدي، اليرقان وسرطان الخلايا الظهاريه 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 كعينه 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 البروثرورومبين المنشط الجزئي ومعدل الفبرينوجين باستخدام جهاز sysmex CA500 .Coagulometer

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

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

ليست هنالك اختلافات بدرجه معنوية في اختبارات سيولة الدم تبعا لعامل عمر والنوع . خلصت الدراسة لوجود ارتفاع في زمن البروثرورومبين، معدل السيولة العالمي، زمن الترومبوبلاستين المنشط الجزئي وانخفاض ف مستوى الفبرينوجين لدى مرضي الكبد

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List of Abbreviations

| | |
|-----------------|--|
| α2-PI | Alpha 2 plasminogen inhibitor |
| AAT | alphal-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 | Herpes 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 |