

Dedication

To my husband Ahmed and
my family

Acknowledgments

I wish to express my gratitudes to my supervisor Dr.Abelbagi Elnagi Mohamed, College of Medical Laboratory Science, Sudan University of Science and Technology, for his assistance, support, encouragement and invaluable advices throughout this study.

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Abstract

This study was conducted to determine the seroprevalence and the possible risk factors for hepatitis B and C virus infections among the blood donors attending Shendi Teaching Hospitals, River Nile State, Sudan.

Seventy eight (78) subjects were investigated during the period from May to July 2005; all the subjects examined were males, age ranging from 20-50 years.

The hepatitis B surface antigen (HBs Ag), the main serologic marker for hepatitis B virus (HBV) infection was detected among 5.1% blood donors using the both immunochromatographic test (ICT) strips and the enzyme-linked immunosorbent assay (ELISA). Hepatitis C virus antibodies (Anti-HCV Abs) were detected among 1.3% blood donors using ICT. In all subjects examined, there were no dual infection with both viruses.

ELISA was found to be fairly sensitive in detecting HBs Ag compared to ICT. However, there was difference between the two techniques used ($P>0.05$).

Previous blood transfusion was found to be a significant factor predisposing to infection with both HBV and HCV viruses ($P<0.05$). There was no significant association between the infection with the two viruses and the other possible factors (drug abuse, previous operation, needle injuries). There was no significant difference between the prevalence of HBs Ag among single and married donors.

ملخص الدراسة

أجريت هذه الدراسة في مجتمع شندي بولاية نهر النيل/ السودان خلال الفترة من مايو وحتى يوليو 2005م لتحديد مدى التعرض لكل من التهاب الكبد (ب) و(ج) والعوامل المؤدية لانتشارهما بين المتبرعين بالدم في مستشفى شندي التعليمي. وقد شملت الدراسة 78 فرد كل العينات من الرجال ، تتراوح أعمارهم بين 20 - 50 سنة.

وجد إن المستضد السطحي لالتهاب الكبد الوبائي (ب) عند استخدام الكروماتوغرافي والاليزا في 5.1 % من المتبرعين بالدم . بالرغم من استخدام الكروماتوغرافي فقط تم الكشف عن الأجسام المضادة لالتهاب الكبد الوبائي (ج) في 1.3 % من المتبرعين. لم تظهر عينة وجود الاثنين من المؤشرات المصلية مما يدل علي عدم إصابة مشتركة.

عند اختبار عوامل الخطر المحتملة وجد أن التاريخ السابق لنقل الدم هو العامل المؤهل للإصابة وهو ذو دلالة إحصائية ($P<0.05$) بينما لا يوجد اختلاف ذو دلالة إحصائية مع عوامل الخطر الأخرى (إدمان الأدوية, العمليات الصغرى والكبرى, حوادث الطعن بالإبر).لم يلاحظ اختلاف ذو دلالة إحصائية ($P>0.05$) بين المتزوجين وغير المتزوجين.

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List of Abbreviations

HAV	Hepatitis A virus
HBV	Hepatitis B virus
HBIG	Hepatitis B immunoglobulin
HAA	Hepatitis associated antigen
HBs Ag	Hepatitis B surface antigen
HBc Ag	Hepatitis B core antigen
HBe Ag	Hepatitis B e antigen
Anti HAV IgM	Antibody to HAV of IgM class
Anti HBc	Antibody to hepatitis B core antigen of both IgM and IgG class
HCV	Hepatitis C virus
Anti HCV	Antibody to HCV
NANBH	Non A non B hepatitis
HDV	Hepatitis D virus
HEV	Hepatitis E virus
HGV	Hepatitis G virus
ELISA	Enzyme linked immunosorbent assay
CIE	Counter immunoelectrophoresis
ICT	Immunochromatographic Test
IEP	Immunolectrophoresis
RIBA	Recombinant immunoblot assay
PCR	Polymerase chain reaction