

PREVALENCE OF HEPATITIS B AND HEPATITIS C AMONG PREOPERATIVE SURGICAL PATIENTS AT BASRAH GENERAL HOSPITAL

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Abstract

Viral hepatitis is a worldwide health problem which requires a thorough knowledge and orientation. Clinical awareness of medical and paramedical staff regarding hepatitis portfolios so important to avoid serious short and long term sequel of hepatitis distribution to other individuals therefore a fundamental strategy has been planned and made in our local surgical field to highlight that issue in different types of surgery. Patients and methods: Retrospective descriptive study was carried out at Basrah General Hospital; Department of Surgery between Sept 2012 and Sept 2013 for patients underwent elective surgery in surgical department. Data was collected on the patients' clinical history and laboratory findings of hepatitis screen for preoperative patients. The findings were recorded in a structured compilation. Results: A total of one thousand and seven hundred and thirty patients entered the study and those were analyzed in terms of general patient data in respect to age and sex as well as analysis of hepatitis screening findings. There were 1034 (59.7 %) males and 696 (40.3 %) females, with ages ranging from 8 months -70 year. The highest prevalence of Hepatitis B and C occurred in the same age group of 40 to 49 years. The sex related distribution of Hepatitis in general patients revealed more female patients than male ones (45/43). This figure is similar among patients in Hepatitis C (22/19) and both Hepatitis B and C (2/1). Hepatitis B showed a reverse pattern of being male predominance with a male to female distribution (23/21).

In conclusion: Clinical awareness is the master of prevention of Hepatitis spread as proper knowledge about transmission and precautions could be of value in reducing disease transmission.

Introduction

Viral hepatitis is a worldwide health problem which requires a thorough knowledge and orientation. About two billion people has infected by hepatitis B virus (HBV) and 350 million people are estimated to be carrier of the virus as well as around one million people die from hepatitis B, makes it one of the major causes of morbidity and mortality¹. According to WHO estimates, Hepatitis C virus (HCV) prevalence is 3% of world population with 170 million cases. Almost 50% of all cases become chronic carriers at risk of liver cirrhosis and liver cancer².

Both Hepatitis B and C are transmitted through blood either by percutaneous or body fluids (semen, saliva or vaginal secretion)^{3,4}.

Doctors, especially surgeons, and the paramedical staff have a high occupational risk of acquiring HBV and HCV infection from patients⁵. There are few population based surveys of HCV and HBV from Europe and USA which reports a prevalence ranging between 1-12% for anti-HCV and 0.8-2.1% for HBs Ag⁶⁻⁸. Prevalence of HCV and HBV is high among injection and drug users, prisoners,

haemodialysis patients, health care workers, patients with history of blood transfusions, voluntary and paid blood donors, and pregnant women⁶.

Approximately 500,000 percutaneous blood exposures occur among hospital-based health care workers in the United States each year⁶. Surgeons and operating room personnel have the highest risk of occupational exposure^{7,8} and sharp injuries in the operating room are the least likely to be reported. While the exposure rate associated with the operating room setting is recognized to be significant, little is known about the current prevalence rate of Hepatitis B and Hepatitis C among patients presenting for surgery in some health institutions⁹.

Unfortunately, once inflicted, these infections show poor response to the available treatment modalities. Therefore precautionary methods are considered the best way to avoid spreading of this disease. Unlike HCV, several vaccines have been developed for HBV that provide long lasting immunity to individuals¹⁰. It is the most important precautionary measure of HBV as a vaccinated individual may never contract the infection¹¹.

Clinical awareness of medical and paramedical staff regarding hepatitis portfolios so important to avoid serious short and long term sequel of hepatitis distribution to other individuals therefore a fundamental strategy has been planned and made in our local surgical field to highlight that issue in different types of surgery.

Aim of study

This study was carried out in the general surgical ward of Basrah General Hospital to find out the prevalence of Hepatitis B and C among admitted preoperative patients.

Patients and Methods

This retrospective descriptive study was carried out at Basrah General Hospital,

Department of Surgery between Sept 2012 and Sept 2013 for patients underwent elective surgery in surgical department.

Patient demographics was evaluated. The study protocol was approved by the ethics committee of Basrah General Hospital and College of medicine, University of Basrah. The inclusion criteria were patients of both age and sex who needed surgery.

The exclusion criteria were patients who did not need surgery and serious patients who presented in accident and emergency and needed immediate surgery.

Data was collected on the patients' clinical history and laboratory findings of hepatitis screen for preoperative patients. The findings were recorded in a structured compilation.

An enzyme-linked immunosorbent assay (ELISA) was used to screen for hepatitis C virus (HCV) antibodies which was confirmed by hepatitis C recombinant immunoblot assay (RIBA). Hepatitis B virus was tested by using hepatitis B surface antigen (HBSAg).

Data were analyzed using SPSS 18.0 software.

Results

A total of one thousand, seven hundred and thirty patients entered the study and those were analyzed in terms of general patient data in respect to age and sex as well as analysis of hepatitis screening findings.

Concerning general criteria of patients, a total of 1730 patients were included in the study. There were 1034 (59.7 %) males and 696 (40.3 %) females, with ages ranging from 8 months -70 year.

The age-specific prevalence's for Hepatitis B and C markers are presented in Table I. The highest prevalence of Hepatitis B and C occurred in the same age group of 40 to 49 years, The sex related distribution of Hepatitis in general patients revealed more female patients than male ones (45/43) This figure is similar among patients in Hepatitis C

(22/19) and both Hepatitis B and C (2/1). Hepatitis B showed a reverse pattern of being male predominance with a male to female distribution (23/21)(Table II).

Table I: Distribution of hepatitis cases according to age

Age group	Number of patients	HBsAg	Anti HCV	HBsAg + Anti HCV
Less than 20	4	1	3	
20 - 29	11	6	5	
30 -39	19	10	8	1
40 -49	35	18	16	1
50 -59	18	9	8	1
60 and above	1		1	
Total	88 (5.08 %)	44 (2.54 %)	41 (2.37 %)	3 (0.17 %)

Table II: Distribution of hepatitis cases according to sex

Sex	HBsAg	Anti HCV	HBsAg + Anti HCV	Total
Male	23	19	1	43 (2.48 %)
Female	21	22	2	45 (2.6 %)
Total	44 (2.54 %)	41 (2.37 %)	3 (0.17 %)	88 (5.08 %)

Discussion

Global issue and endemic pattern of Hepatitis B and C in certain parts of the world make them significant diseases that require appropriate awareness. Many Asian countries are highly endemic to both Hepatitis B and Hepatitis C².

In our study eighty eight cases (5.08%) of Hepatitis B and C were discovered preoperatively which includes forty four (2.54%) cases of Hepatitis B, forty one (2.37%) cases Hepatitis C and three (0.17%) cases of both Hepatitis B and C.

These figures can be compared with figures found in Baghdad which were 3.0% and 2.4% for Hepatitis B and Hepatitis C respectively¹².

Hepatitis C virus infection is endemic in certain parts of the world, which is 3%¹³ and ranges from 2.4% in Turkey 4to 14.4% in Southern Italy¹⁴.

Others estimate showed the hepatitis B and C was present in 5.15% cases with patients having hepatitis C as 3.12% and hepatitis B in 2.02% cases¹⁵.

Study conducted in 990 employees of 17 Greek companies, during 1996 to 1997 revealed HBV prevalence as 2.6% and HCV as 0.5%¹⁶. Weiss and co-workers

from Johns Hopkins University reported in July 2003 a 4.9 % prevalence of HCV and 4% of HBV among 709 operated cases¹⁷.

Another study conducted in New South Wales prisons, from June to December 1994, showed that 37% of inmates were positive for HCV and 3.2% for HBV¹⁸.

Regarding the age distribution, the highest age group was 40-49 in Hepatitis B and C while both Hepatitis B and C showed a similar distribution in the age groups (30 - 39), (40 -49) and (50 -59).Age group of 60 and above showed a lowest score in a group of Hepatitis B and Hepatitis C as compared to groups (60 and above) (20 and below) and (20-29) in a group of both Hepatitis B and C.

These findings are similar to a study done in Karachi¹⁹ which demonstrated a trend of increasing prevalence of Hepatitis B and C with increasing age as most of the cases were more than 40 years of age.

Hepatitis B and Hepatitis C prevalence in preoperative surgical patients was found to be higher in females (2.6 %) than males (2.48%). Male predominance is only seen in Hepatitis B group.

Sayed et al also showed that the total prevalence of Hepatitis B and Hepatitis C in males was very high compared to females among preoperative surgical patients¹⁹.

Male predominance was seen in other studies as in Khan and Mashud et al^{20,21}.

We think that our study does not reflect the true prevalence of HBV and HCV in the general population because the sample

taken was only of surgical data which might under estimate the true prevalence of Hepatitis B and C infection in the general population.

Clinical awareness is the master of prevention of Hepatitis spread as proper knowledge about transmission and precautions could be of value in reducing disease transmission.

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