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Incidence of Hepatitis B And Hepatitis Cinfection In Patients Underwent Elective Surgery In A Tertiary Care Hospital.

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Abstract:
Background / Aims:*Viral hepatitis (HBV and HCV) is a major health problem affecting approximately two billion population worldwide. It is one of the single most important cause of chronic liver disease (CLD) and hepato - cellular carcinoma (HCC). The aim of the study was to determine the incidence of hepatitis B and hepatitis C infection in patients underwent elective surgery and to evaluate the associated risk factors in hepatitis B and hepatitis C infection.*
METHODS AND MATERIALS:
In this retrospective study a total number of 834 patients who underwent elective surgery in the department of surgery at TRIHMS, Naharlagun, from 01-12-2018 to 31-08-2019 were studied. The patients were screened for HbsAg and anti – HCV using immunochromatography (ICT) method. Those patients who were weak positive by ICT method and further confirmed by ELISA (Enzyme-linked immunosorbent assay).
RESULTS:*A total number of 834 patients underwent elective surgical operations were studied. In this study 372 (44.60%) patients were male and 462 (55.40%) were female patients. There were 27 (3.24%) patients positive for HBV infection and there was no patient for HCV infection. HBV infection is more common in female (1.80%) then male (1.44%) parenteral injection by quacks, previous surgery, blood transfusion and shaving by barbers found to be the risk factors.*
CONCLUSION:
"Prevention is better than cure"*. There is high frequency of hepatitis B and Hepatitis C infection in our population. Therefore, it is a mandatory task to screen in every patient for hepatitis B and hepatitis C before any surgical procedure.*
Keywords: *Hepatitis B virus, Hepatitis C virus and elective surgery.*

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I. Introduction

Hepatitis is a serious disease of liver and described as a lifelong infection with swelling and inflammation (Presence of inflammatory cells) in the liver, that it progressesto cirrhosis (Scarring) of liver, liver cancer, liver failure and death. It is a major health problem and occurring epidemically in all places of the world (1). About one third of world's population has been exposed to the HBV infection, an estimated 350-400 million people are infected and one million people deaths due to hepatitis B related disease (2). Hepatitis C virus (HCV

)infection is increasing more rapidly and has occurring in endemic situation in most part of the world, with a prevalence of about 3% worldwide (3).Nearly 500 millionpeople are estimated to be infected with hepatitis C worldwide (4).Hepatitis c virus (HCV) progress slowly and carries a high risk of chronic liver disease (70 - 80%) and later on hepatocellular carcinoma (5).Hepatitis B virus (HBV) transmitted through blood and blood products, semen, vaginal fluids and other body fluids. Hepatitis c virus (HCV) is a blood borne or parenterally transmitted infection. Vehicles and routes of parenterally transmitted include; contaminated blood and blood products, multiple-transfusions (in thalassemia and haemophilic patients), needle sharing, contaminated instruments (in haemodialysis, reuse of contaminated medical devices, tattooing devices, acupuncture needles, razors), occupational and nosocomial exposure (6).

II. Methods

This retrospective study conducted in the department of surgery at TRIHMS, Naharlagun, from 01-12-2018 to 31-08-2019.

All the patients admitted in the department of surgery for elective operation included in the study. The patients were screened for HBsAg and Anti-HCV using immunochromatography (ICT) method. Thepatients who were weak positive by ICT method and further confirmed by ELISA.

Criteria

Inclusion criteria

1. Male and female – both gender of patients with surgical pathology.
2. Address for surgical intervention at TRIHMS, Naharlagun.
3. Has given their written consent for anaesthesia for surgery.

Exclusion criteria

1. Patients refuse of screening for HBV and HCV.
2. Any patient already known to be HBV / HCV positive.

A detailed history of all patients was taken according to a detailed Proforma. Universal precautions were taken during surgery of positive patients like hand free transfer of sharp cutting instruments, wearing double gloves and preventing pricking of needles during surgery. All positive patients were referred to physician for further management of hepatitis after surgery.

III. Results

This retrospective study included a total of 834 patients who were underwent for elective surgical operationsfrom 01-12-2018 to 31-08-2019 in the department of surgery at TRIHMS, Naharlagun.

Table 1: prevalence of HBV and HCV infection among patients underwent elective surgery.

SCREENING RESULT	NO. OF PATIENTS	PERCENTAGE
Negative for HBV and HCV	**807**	**96.76**
HBs Ag Positive	**27**	**3.24**
Anti-HCV Positive	**0**	**0**
Total No. of Patients	**834**	**100**

There were 27 (3.24%) patients positive for HBV and there was no patient for HCV.

Table 2: Sex-wise distribution of the patients.

SEX	NO. OF PATIENTS	PERCENTAGE
Male	**372**	**44.6**
Female	**462**	**55.4**
Total No. of Patients	**834**	**100**

There were 372 (44.60%) male patients and 462 (55.40%) female patients in the study.

Table 3:HbsAg and HCV reactive patients.

(a) HbsAg reactive patients.

SEX	No. of HbsAg positive patients	Percentage
MALE	**12**	**1.44**
FEMALE	**15**	**1.8**
Total no. of patients	**27**	**3.24**

There were 12 (1.44%)male patients and 15 (1.80%) were female patients in the study.

(b) HCV reactive patients :

SEX	No. of HbsAg positive patients	percentage
MALE	**0**	**0**
FEMALE	**0**	**0**
Total no. of patients	**0**	**0**

There was no patient for HCV infection in the study.

Table 4: Age-wise distribution of positive patients.

(a)Age - wise distribution of HbsAg positive patients.

Age (in Years)	No. of HbsAg positive patients	Male	Female
1-20	2	1	1
21-40	19	7	12
41-60	6	4	2
61 and above	0	0	0
Total No. of HbsAg Positive patients	27	12	15

Hepatitis B (HBV) infection is common in the age group of 21 years to 40 years in the study.

(b)Age - wise distribution of HCV positive patients.

Age (in Year)	No. of HCV positive patients	Male	Female
1 – 20	0	0	0
21 – 40	0	0	0
41 – 60	0	0	0
61 and above	0	0	0
Total No. of HCV Positive patients	0	0	0

There was no patients with HCV infection in the study.

(5) Associated risk factors in Hepatitis B positive patients.

Factor	No. of Patients
Parenteral Injection by Quacks	10
Previous surgery	5
Blood transfusion	5
Shaving by barbers	4
Others	3
Total no. of patients	27

Parenteral injection by quacks, previous surgery, blood transfusion and shaving by barbers found to be the risk factors in the study.

IV. Discussion

Viral hepatitis (HBV and HCV) is a major health problem affecting approximately two billion populations worldwide. It is one of the single most important cause of chronic liver disease (CLD) and hepato-cellular carcinoma (HCC) and is now spreading beyond endemic dimensions. About 5% of general population and 10% of the adult population has reported carrying virus (7). In a study by Rawalpinda reported HBV 2.8% and HCV 7.5%. in another study of Nawab Shah HBV 8.6% and HCV 11.6% and Jacobabad HBV 9.35% and HCV 14%. There is 3.24% of patients positive for HBV and there was no patient for HCV in this study. In a study by Haw reported 7.44% in male and 5.36% in female. HBV infection is common in female(1.80%) then male(1.44%) in the study. Majority of the authors reported hepatitis B and hepatitis C is common in the age group of 20 years to 40 years. HBV infection is common in the age group of 21 years to 40 years in the study. The result of this study is comparable to studies done by others. Most common route of transmission of hepatitis B and hepatitis c virus is parenterally, mainly as a result of contaminated blood transfusion or blood to blood

contact, injury by contaminated sharp instrument, with infected needle pricks or sexual contact and also through perinatal vertical transmission from mother to child. The risk factors in hepatitis B and hepatitis C include: barber shave, dental procedures, surgical procedures, parenteral injections, blood transfusion, history of contact and drug addicts.(8)

V. Conclusion

"PREVENTION IS BETTER THAN CURE". There is high frequency of hepatitis B and hepatitis C virus infection in our population. It is very essential to prevent spread of hepatitis B and hepatitis C by screening every patient before surgery and counselling of the patients. Need for mass immunization against HBV and awareness regarding HBV and HCV should be promoted among doctors, paramedical staffs, general public in our society and protect them from those viral infection.

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