INCIDENCE OF HEPATITIS B AND C IN SURGICAL PATIENTS AT GHULAM MOHAMMAD MAHER MEDICAL COLLEGE SUKKUR

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ABSTRACT
Objective: *To assess Seroprevalence of HBsAg and Anti HCV and to evaluate associated risk factors in surgical patients admitted at Ghulam Mohammad Maher Medical College hospital Sukkur.*
Study Design: *Descriptive study.*
Setting & Duration: *Surgical Unit I, Ghulam Mohammad Maher Medical College Hospital Sukkur from January 2008 to June 2008.*
Methodology: *All the patients admitted for surgery were included in study. The patients were screened for HBsAg and Anti HCV using immunochromatography (ICT) method. Those who were weak positive by ICT were further tested by Enzyme Linked Immunosorbent Assay (ELISA).*
Results: *During study period of six months 449 patients were admitted and screened for HBsAg and Anti-HCV. It included 290 (64.5%) males and 159(35.5%) females. Out of these 19 (4.3%) patients were HBsAg positive and 38 (8.4%) patients were Anti-HCV positive while 3(0.6%) were positive for both HBV and HCV. Parenteral injections, previous surgery/ blood transfusion and shaving by barbers found to be the risk factors.*
Conclusions: *We conclude that "Prevention is better then cure". Since there is no cure or cures are very expensive for hepatitis B and C, in order to prevent the spread of disease it is necessary to screen every patient before surgery. Every person should be vaccinated against HBV. Masses are to be informed through electronic and print media for risk factors.*

KEY WORDS: *Hepatitis B, Hepatitis C, HBsAg, Anti-HCV, Surgical Patients*

INTRODUCTION

Viral hepatitis is a global public health problem. There is a range of Hepatitis viruses named A, B, C, D, and E Virus that affect the liver. Hepatitis A and E has a self limiting course and they do not progress to chronic liver disease (CLD).[1]

Hepatitis B (HBV) and C (HCV) are a serious challenge to health care professionals world wide since they progress to CLD and Hepatocellular carcinoma. The Hepatitis D or delta virus is unable to replicate on its own but is activated by the presence of HBV. It is particularly seen in intravenous drug abusers.

HBV was discovered in 1963 and its serological marker, Hepatitis B Surface Antigen (HBsAg), was isolated by Blumberg in same year.[2,3] It is estimated that there are more then 350 million HBV carriers in the world and roughly more than one million people die each year due to HBV related liver disease.[4] HCV was isolated in 1989. It has infected nearly 500 million people in the world.[5]

Various prevalence rates of HCV have been reported locally and abroad, ranging from 0.4% to 24%.[6-8] HBV and HCV both are transmitted by contaminated blood transfusion, unsterlized syringes and the surgical instruments, dental surgery, sexual contact, drug abuse, sharing razors, tooth brushes and shaving by barbars.[9-11] Transmission of blood borne HBV and HCV from healthcare professionals to patient has also been documented.[12-14]

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METHODOLOGY

This study was conducted in Department of Surgery, Unit I, Ghulam Mohammad Maher Medical College Hospital that is a teaching hospital providing services to upper Sindh, adjacent areas of Balouchistan and lower Punjab. All the patients admitted for surgery from January 2008 to June 2008 were included in study. The patients were screened for HBsAg and Anti HCV using immunochromatography (ICT) method. Those who were weak positive by ICT were further tested by Enzyme Linked Immunosorbent Assay (ELISA). The information regarding previous known hepatitis profile, risk factors and vaccination was recorded on proforma. Special precautions were taken during surgery of positive patients like using hands free transfer of sharp cutting instruments, wearing double gloves and being alert during skin closure with cutting needles. The nursing staff in the ward was also warned to avoid needle stick injuries while handling these patients. After surgery all patients were referred to physicians for further management in Liver clinic established by Prime Minister's program in our hospital.

RESULTS

During six months study period, 449 patients were admitted for surgery which included 290(64.5%) males and 159(35.5%) females. Their ages range from 2 to 80 years. Out of 449 screened patients, 19(4.3%) were positive for HBsAg and 38(8.4%) were positive for Anti HCV and three (0.6%) patients were positive for both HCV and HBV. Among 19 HBsAg positive patients, 13(68.5%) were male and 6(31.5%) were female and out of 38 Anti HCV positive patients 23(60.5%) were male and 15(39.5%) were female. Their distribution is shown in Table I. Risk factors identified in seropositive patients are shown in Table II. No patient had history of vaccination against HBV.

Table I. Age wise distribution of HBV and HCV positive cases

Age	HBV Positive	HCV Positive
10-20 Years	3(15.7%)	5(13.2%)
21-30 Years	5(26.3%)	9(23.7%)
31-40 Years	3(15.7%)	8(21.1%)
41-50 Years	5(26.3%)	5(13.2%)
51-60 Years	1(5.3%)	2(5.2%)
61-70 Years	--	6(15.7%)
71-80 Years	2(10.7%)	3(7.9%)
Total	19(100%)	38(100%)

DISCUSSION

Hepatitis B and C are the major causes of morbidity and mortality around the world, especially in developing countries. Prevalence of HBV and HCV in the Asia-pacific is 10% and 4-12% respectively.[15,16] Incidence of these viruses in general Pakistani population ranges between 4 to 25%.[17,18] In this study the prevalence of HBsAg and Anti HCV in surgical patients was 4.3% and 8.4% while 0.6% was positive for both. The results of our study are comparable to studies done in different cities of Pakistan, Karachi HBV (6.5%) and HCV (11.3%)[19], Rawalpindi HBV (2.8%) and HCV (7.5%)[20], Nawabshah HBV (8.6%) and HCV (11.6%)[21], Jacobabad HBV (9.33%) and HCV (14%)[22], study from Rawalpindi by Bhopal HBV (18.66%) and HCV (6.33%).[23] Two studies done in Japan one shows seropositivety of HBV (1.8%) and HCV (7.1%) and other shows seropositivety of HCV (16.9%).[24,25]

We have recognized three risk factors in this study (Table II). The most common was use of contaminated syringes. History of I/V and I/M drug injection was present in 68.5% patients positive for HBV and 52.7% patients were positive for HCV. Same risk factor is most frequently seen in their study by Zubia. They have noted history of parenteral therapy in 96% patients positive for HBV and 95.4% patients' positive for HCV. Faridullah[26] and Aslam[27] have reported parenteral drug therapy as a risk factor for transmission of hepatitis B and C 40.8% and 4.76% respectively.

There are thousands of quacks practicing in rural areas that have no concept of sterilization. They are using same syringe for more than one patient and charge money according to number of injections injected in any one patient. Past history of surgery and blood transfusion was present in 10.6% of HBsAg positive patients and 15.7% of Anti-HCV positive patients in

Table II. Risk factors

Risk Factor	No. of cases HBV + ve	No. of cases HCV + ve
Parenteral Injections	13(68.5%)	20(52.7%)
Previous Surgery/ Blood Transfusion	2(10.6%)	6(15.7%)
Shaving from Barbers	1(5.2%)	5(13.1%)
No cause found	3(15.7%)	7(18.5%)
Total	19(100%)	38(100%)

this study. This risk factor was seen in those patients who were operated in emergency. Fault may be lying in incorrect screening of blood arranged in emergency or using same blade for many patients to shave abdominal hair. Shaving of abdomen of patient is routinely done by sweepers who are using a same razor for many patients.

CONCLUSION

Considering high prevalence of hepatitis B and C in surgical patients, we recommend routine screening of all patients before surgery. Shaving of surgical site should be done by disposable razors. Ban should be imposed on practice of Quacks. The disposable syringes should be used for every patient and after use should be disposed properly to avoid their reuse. To avoid transmission of disease from patient to health care workers and vise versa, special precautionary measures like, hands free transfer of sharp instruments, wearing double gloves, should be taken. Public should be made aware of risk factors through electronic print media.

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