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Importance of Screening of Patients for Hbv and Hcv before Elective Surgery

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ABSTRACT

Objective: Objective of this study was to emphasize on the importance of screening for hepatitis B and C before undergoing elective surgery.

Patients & Methods: This study was done on 110 patients who were planned for surgery. These patients were admitted in surgical ward-4 of Bahawal Victoria Hospital Bahawalpur. The duration of study was from January 2017 to August 2017. These cases were screened for HBV and HCV by ELISA technique. Tests were done in Government laboratory of the hospital which is well equipped with a trained faculty. Which patients had previous reports older than 3 months of ELISA for HBV –DNA and HCV-RNA their test was repeated by the laboratory of hospital.

Results: Out of 110 cases 60(54.5%) were males and 50(45.4%) were females. In ELISA technique 18(16.3%) were positive for anti HCV antibodies and 12(10.9%) were positive for HBsAg antigen. Out of 18 cases 10(55.5%) were males and 8(44.4%) were females. Similarly among 12 cases positive for HBV of which 5(41.6%) were males and 7(58.3%) were females. Their age was ranging from 24 to 55 years with mean age of 37.5 years.

Conclusion: The screening of patients for hepatitis B and hepatitis C is very important before any sort of surgery so that necessary measures may be taken by the doctors and nurses for protection from HBV and HCV.

KEY WORDS: Hepatitis-B, Hepatitis-C, surgery, screening

INTRODUCTION

Patients admitted in hospitals with any disease are usually not screened for HCV and HBV. These tests are commonly done in those patients who give any history of jaundice, black stools abdominal distension etc. But many patients being treated in medical wards for any disease and patients undergoing surgery may be positive for hepatitis B and C irrespective of this they have such signs and

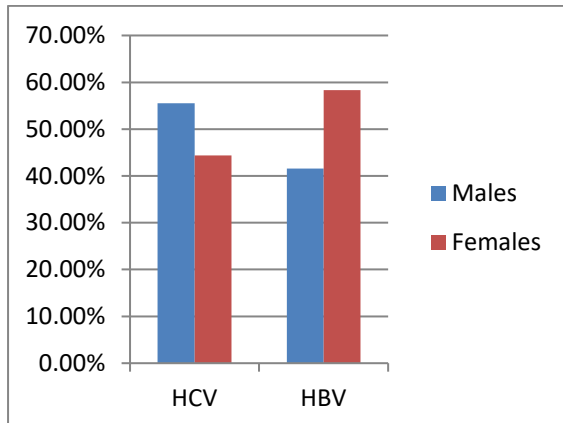
symptoms or not. Many patients are asymptomatic with positive serology for HBV and HCV. With estimation about 45-55% patients with hepatitis B or C reported in the hospitals do not have jaundice. In surgical wards spread of hepatitis may occur more easily as compared to medical wards. Doctors may get infected during operation with needle prick. Spillage of blood in theater may infect others. Contamination of surgical instruments and use of them in other operations without proper sterilization may infect other patients. According to studies in Pakistan prevalence of hepatitis C is 7-20%,^{1,2} and prevalence for hepatitis B is 10%.^{3,4} As hepatitis B and C is very common in Pakistan so it is necessary that every patient presenting in hospitals or any disease should be tested for viral markers especially those cases should be screened which are planned for any sort of surgery. In our hospitals spread of hepatitis from one patient to others is much common. Surgeons are on high risk for being infected with hepatitis B and C. Now many measures are being taken in the hospitals by government for preventing spread of hepatitis B and C. Special hepatitis clinics have been made for screening of hepatitis But much work is still needed in this field on large scale to decrease spread of the infection.

PATIENTS AND METHODS

This is a cross sectional type of study conducted on 110 patients in surgical unit of Bahawal Victoria Hospital Bahawalpur from January 2017 to August 2017. This is a tertiary care hospital of more than 1500 beds located in the centre of city. This hospital provides health facilities to an extensive area of south Punjab. All patients admitted in surgical ward-4 in the given period of time were screened for hepatitis B and C by ELISA before they underwent surgery. ELISA was done in laboratory of the hospital. Results were documented properly. Age of patients was ranging



from 24 to 55 years. These patients were not having any sign or symptom of hepatitis and they were admitted in the ward due to other surgical indications. A proper written consent was taken from the medical superintendent of the hospital. Consent was also taken from the patients as well. All data collected was expressed in tables and charts. Frequencies were calculated for patients infected with hepatitis B or C.



Presentation of HCV and HBV in male and female patients.

RESULTS

This study was conducted on 110 cases during the period of 8 months. Among these cases 60(54.5%) were males and 50(45.4%) were females. Out of 110 cases 18(16.36) were positive for HCV. Out of these 18 cases 10(55.5%) were males and 8(44.4%) were females. Similarly 12(10.9%) cases were positive for HBV-DNA out of 110 cases. Among these 12 cases 5(41.6%) were males and 7(58.3%) were female patients. According to our study hepatitis-C was more prevalent than hepatitis-B. Males were more infected with hepatitis than females. This may be due to more contact of males with other people in the society on working place etc. Females are mostly restricted to home therefore they have less chances to get infection from outside home. Our study showed that hepatitis-C was more common in males and hepatitis -B was common in females. Actually prevalence of HBV and HCV does not depend on gender. Prevalence Of HCV is more in south Punjab. Prevalence may vary depending on different geographical areas.

Age (yrs)	Cases Operated		Total	HCV+ve patients		Total	H B +ve patients		Total
	Male	Female		Male	Female		Male	Female	
15-25	10	15	25 (22.72%)	1	2	3 (16.6%)			
26-35	8	17	25 (22.72%)	1	3	4 (22.2%)	1	2	3 (25%)
36-45	12	8	20 (18.2%)	4	1	5 (27.8%)	3	2	5 (41.6%)
46-55	9	6	15 (13.6%)	3	1	4 (22.2%)		1	1 (8.3%)
55-65	14	3	17 (15.45%)	1		1 (5.5%)	1	2	3 (25%)
> 65	7	1	8 (7.3%)		1	1(5.5%)			
Total	60 (54.5%)	50 (45.4%)	110	10 (55.5%)	8 (44.4%)	18 (16.36%)	5 (41.6%)	7 (58.3%)	12 (10.9%)

DISCUSSION

According to some studies the prevalence of Hep-B in Pakistan is 10% and that for Hep-C is from 0.7 to 20% in different areas of the country.^{1,2,6,7} From previous many years hepatitis has become very common in Pakistan.^{3,4} Many infected cases of hepatitis are asymptotically present among us. According to a study 20-70 cases of CLD have hepatitis-C.⁸ Other studies by Sheikh et al,³ and

Malik et al,⁵ and similar study by Ahmed et al, these all studies concluded that carriers of HBV are 10-16% in Pakistan. These results are similar to our result of 10.9% for HBV. Unsterilized surgical equipment and blood transfusion without proper screening are major factors of infection with HBV and HCV. Doctors and other staff in hospitals are on high risk for getting this infection from the patients. Surgeons are very susceptible to this infection especially by needle pricks or by sharp



instruments. According to a study by Mujeeb it was concluded that Hepatitis-B prevalence is 7% in doctors, 20% in workers of hospital and prevalence in dentists was 17%.¹⁰ There is insufficient awareness of Hep-C & B among health care providers. Proper measures are not taken by doctors and other hospital staff to avoid such infection.¹¹ According to this study prevalence of HCV was 16.36% and that of HBV was 10.9%. Ten male patients were infected with HCV and were infected with HBV. Among all cases of HCV positive 55.5% were males and 44.4% were females. In HBV positive cases 41.6% were males and 58.3% were females. Most of the infected cases were having age from 31 to 50 years. In under-developed and developing countries like Pakistan Deliveries are done by inexpert Birth attendants in unsterilized environment which increases risk of Hepatitis B,C in mothers. This is very common mode of infection in south Punjab as showed in this study that females are more infected with HBV than males. Other modes of transmission of this infection are blood transfusion without proper screening, improper sterilization of surgical instruments and used syringes. Surgeons are very high risk group for acquiring such infections via

needle pricks and contamination by infected blood. Doctors can avoid this infection by use of proper preventive measures such as use of masks, disposable gowns and wearing double gloves and screening of cases for hepatitis well before surgery. During emergency surgeries these measures must be taken. Body tissues or secretions of patients should be disposed properly. Awareness should be given to healthcare providers and public frequently. Seminars of awareness should be managed in schools, colleges and universities. Proper follow up of infected cases should be ensured. Proper documentation of cases should be done. Special centers should be formed for hepatitis screening as working in Punjab.

CONCLUSION

This study concludes that screening of patients before undergoing surgery is necessary to prevent transmission of hepatitis-B and C. HBV and HCV have high prevalence in south Punjab. There is not proper awareness among healthcare providers and public of Pakistan about Hepatitis-B & C. It is highly needed that proper steps should be taken on large scale to decrease incidence of this infection.

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