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Prevalence of hepatitis B virus infection in asymptomatic patients: An observational study

[1] Serajuddin, [2] Iqbal Aziz, [3] Albina Shamsi, [4] Shafeeq Ahmad Khan

[1, 4] Resident, Department of jarahat (general Surgery), Aligarh Muslim University, Aligarh, Uttar Pradesh, India
[2] Professor Department of jarahat (general Surgery), Aligarh Muslim University, Aligarh, Uttar Pradesh, India
[3] Assistant Professor, Department of jarahat (general Surgery), Aligarh Muslim University, Aligarh, Uttar Pradesh, India

Abstract
Aim & objective: Viral hepatitis is a major global public health problem, potential of adverse sequelae, including hepatocellular carcinoma and hepatitis B virus (HBV) infection is rapidly spreading in the developing countries including India, this study was design to estimate the prevalence of hepatitis b in asymptomatic patients admitted in jarahat (general surgery) ward, AKTCH, AMU, Aligarh, and to correlate the results with gender and ages of the study participants.
Material & methods: this observational study included asymptomatic patients of both genders and all ages, they admitted for problems other than hepatitis b and most of them scheduled for general surgical procedure. They were tested for hepatitis b virus (HBV) by kit method, positive samples for hepatitis b referred to tertiary care Centre.
Results: a total of 986 patients were admitted and tested for hepatitis b virus (HBV) by kit method, nearly 2.33% cases were found to be positive, hepatitis b was found in 13 (1.31%) male and 11(1.11%) female, however, the prevalence rate appeared higher in males than in females, hepatitis b positive cases referred to tertiary care Centre.
Conclusion: It can be concluded that there is needed to adopt organized preventive strategies to overcome this problem and also design a HBV awareness program to help reduce the infection so, therefore HBV vaccination should include in the routine immunization programme.

Keywords: Prevalence, Hepatitis B, Asymptomatic Patients

1. Introduction
Viral hepatitis is a serious public health problem affecting billions of people globally, The HBV-induced disease is the tenth cause of death worldwide, and Over 600,000 persons die each year worldwide from complications of HBV infection including liver cirrhosis and hepatocellular carcinoma [1]. Prevalence of Hepatitis B varies in different parts of the world, HBV has a complex serology and natural history as a result of multiple serological markers which include HBsAg, antiHBs, AntiHBC, HBeAg, antiHBe and HBV DNA quantification, HBSAG is the most reliable biological biomarker of HBV infection. There are wide regional variations in the prevalence of HBV infection, with rates greater than 8% seen in Asia, Western Pacific and Africa; regions of intermediate rates (2-7%) are southern and eastern Europe, whereas rates less than 2% are seen in western Europe, Australia and the USA [2, 3]. One of the problems associated with estimation of prevalence of Hepatitis B is that many patients infected with this virus are asymptomatic, at least initially. They are detected incidentally when they are screened for HBV for various reasons like for general surgical procedure, overseas employment. So it is difficult to calculate the frequency of Hepatitis B, Because most HBV carriers are asymptomatic, this study was design to evaluate the prevalence of HBV infection in asymptomatic carriers among patients having some problems other than hepatitis b in AKTC & Hospital, AMU, Aligarh, and to correlate the results with gender and ages of the study participants.

2. Material & Methods
This observational study included asymptomatic patients of both genders and all ages, A total of 986 general surgical patients were hospitalized between July, 2013 to April,2016 in the Jarahat (general surgery) Department of Ajmal khan Tibbiya College & hospital, it is a teaching hospital for Aligarh Muslim University Aligarh, for problems other than hepatitis b (HBV), Patients were admitted through the outpatient department (OPD) who were scheduled for surgical procedures were screened for HBsAg (hepatitis b surface antigen) with kit method during the pre-operative period. Screening facility was provided free of cost to all, this study was design to estimate the prevalence of hepatitis b in asymptomatic patients admitted in jarahat (general surgery) ward, AKTCH, AMU, Aligarh, and to correlate the results with gender and ages of the study.

3. Results
In this study 986 patients who underwent general surgery were screened for serological markers of HBV infection. There were 409(41.48%) male and 577(58.51%) female patients. Most of them belonging to the lower socio-economic group. Majorities were farmers, labourers or shop keepers, and belonged to rural areas. Amongst, the 24 were positive for hepatitis B (2.43%). Hepatitis B was found in 13 (1.31%) male and 11(1.11%) female patients. Nearly 2.33% cases were found to be positive for serology in this study (Table 1).Among positive patients had no symptoms of hepatitis B (like malaise and dyspepsia), history of jaundice, no previous surgeries and history of blood

transfusion in the past. None of them was vaccinated for hepatitis B. Clinical examination revealed that none of the patients had hepatomegaly, ascites or splenomegaly. The abdominal ultrasound scan results revealed normal study in most of the subjects, or subjects had chronic cholecystitis with cholelithiasis, normal sized liver with normal parenchyma.

Table 1: Hepatitis B positive patients according to total and gender

Gender	Total patient	Hepatitis B positive	%
Male	409(41.48%)	13	(1.31%)
Female	577(58.51%)	11	(1.11%)
Total	986	24	2.43%

Table 2: Age and sex distribution of patients undergoing evaluation for Hepatitis B

Age in years	Male Tested N%	Positive N%	Female Tested N%	Positive N%	Total Tested N%	Positive N%
1-19 year	51(5.17%)	2(0.20%)	36(3.65%)	0(0.00%)	87(8.82%)	2(0.20%)
20-29	89(9.02%)	3(0.30%)	117(11. 86%)	4(0.40%)	206(20.89%)	7(0.70%)
30-39	65(6.59%)	1(0.10%)	121(12.27%)	2(0.20%)	186(18.86%)	3(0.30%)
40-49	94(9.53%)	2(0.20%)	176(17.84%)	3(0.30%)	270(27.38%)	5(0.50%)
50-59	41(4.15%)	1(0.10%)	72(7.30%)	0(0.00%)	113(11.46%)	1(0.10%)
60-69	51(5.17)	2(0.20%)	39(3.95%)	2(0.20%)	90(9.12%)	4(0.40%)
>70	18(1.82%)	2(0.20%)	16(1.62%)	0(0.00%)	34(3.44%)	2(0.20%)
Total	409(41.48%)	13(1.31%)	577(58.51%)	11(1.11 %)	986(100%)	24(2.43%)

4. Discussion

Hepatitis B infection is a leading cause of morbidity and mortality, not only because of the acute illness but also due to its chronic sequelae like chronic hepatitis, cirrhosis and hepatocellular carcinoma, and accounting for more than a million deaths annually worldwide [4, 5] Various epidemiological and cross-sectional studies have reported marked variation in the prevalence of HBsAg [6, 7] In addition, this prevalence varies from country to country, from one region to another region and from one group to another group in a country [8]. The results of our study show a low HBV exposure among our study population. The HBsAg prevalence of 2.33% among our study population is very close within the range of 2-7%, reported by previous studies from selective population of Dhaka [9] However, a recent report showed 5.5% HBsAg positivity among the general population living in Savar, a semi-urban area on the outskirts of Dhaka [10]. There are several studies conducted on seroprevalence of HBsAg in India, Batham A *et al*. showed in their review of 54 studies on HBsAg prevalence in India that prevalence in non-tribal population is 2.4% and Lodha *et al*. has concluded that it is between 1-2%, [11, 12]. This is similar to recent sero-prevalence study conducted by Bhatta CP *et al.* in a hospital based population study in a Teaching Hospital have reported 2.5% prevalence [13]. In our study, the prevalence of HBV was more in males than females similar observation was reported by Smita Sood and Shirish Malvankar *et al*. showed 1.04% and 0.58% respectively for males and females [14]. Dutta *et al*. has found it to be 35.3% in males and 19.3% in females [15]. Singh *et al*. have noticed prevalence to be 0.65 and 0.25% respectively in males and female subjects [16]. Our finding revealed that the age group 20-29 years was more infected than other age groups (Table 2). This is similar to recent sero-prevalence study conducted in Kashmir [17]. The positive cases could be attributed to the general lack of proper health care because of deprived socio-economic status and less public health awareness about the transmission of HBV infection as well as the lack of hepatitis B vaccination in the community.

5. Conclusion

It can be concluded that there is needed to adopt organized preventive strategies to overcome this problem and also design a HBV awareness program to help reduce the infection so, therefore HBV vaccination should include in the routine immunization programme,

6. References

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