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Results: The burden of acute hepatitis B infection is more in the young males especially in the rural areas i.e. residing in villages. The reason for this could be lack of awareness, hygiene and shortage of health facilities.

Keywords: hepatitis B, acute hepatitis B, HbsAg, tattooing, blood transfusion

Abstract

Introduction: Hepatitis is often a viral infection and hepatitis B virus (HBV) is reason in significant proportion of cases worldwide. HBV impact on liver can be of varying severity ranging from acute hepatitis to chronic hepatitis which can further lead to chronic liver disease, liver cirrhosis and hepatocellular carcinoma (HCC). There is paucity of data on acute hepatitis B, thus more researches will lead to better understanding of epidemiology and planning appropriate strategies required for prevention and control.

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of blood was collected from all the patients. Serum was separated by centrifugation, aliquoted & stored at -20 degree till further tests were performed. Every subject underwent detailed set of investigations which included like complete haemogram, liver & renal function test, ESR,INR, anti-HAV IgM ELISA, HbsAg ELISA, anti-HCV IgM ELISA, anti HIV IgM ELISA assay, and ultrasound abdomen.

Four hundred and nine (409) patients who were found to be having features of acute hepatitis and confirmed to be positive for HbsAg on Enzyme linked Immunoassay test (ELISA) and HBV DNA by polymerase chain reaction (P.C.R) testing and were enrolled in the study.

Analysis of data

All the relevant collected data was analyzed using SPSS (Statistical Package for Social Studies) and for differences between groups, Pearson’s chi-square test was used. For calculating difference of means for quantitative variables, “t” test was used. The distributed data were presented as means and standard deviation, or 95% confidence intervals (CI), the p value of less than 0.05 was considered significant.

Observations and results

The present study analyzed the data pertaining to 409 patients and had male predominance i.e. 300 (73%) in comparison to females i.e. 109 patients (27%). There was rural predominance i.e. 343 (83%) of the subjects came from rural areas (village background) and only 68 (17%) were having urban background. Out of total 409 patients, eighty four percent patients were married. The age group varied from 7yrs-80 yrs of age but maximum number of patients belonged to 20 to 50years age i.e. 66% of total patients. At extreme of ages i.e. from 0 yrs-10 yrs & 70 yrs-80 yrs, only 3 (1%) patients were found to be having acute hepatitis B. More than one third i.e.150 patients (%) were from Rohtak district alone but it could not be inferred that this district is having highest prevalence but the institute where we conducted this study is located here, thus due to easy accessibility, majority of patients came for treatment. The most striking thing noticed on data analysis was that there are certain geographical hotspots i.e. districts like Sonipat (41 i.e. 10.02%), Jind (36 i.e. 8.80%), Karnal (30 i.e.7.33%), Panipat (26 i.e. 6.35%), Kaithal (20 i.e. 4.88%) showed significant proportion of cases of acute hepatitis B and they are already having high prevalence of hepatitis C.11

In present study, history of dental procedures (96 patients, 23.47%), previous surgery (71 patients, 17.35%) and tattooing (52 patients, 12.71%) appeared as major risk factors. The history of intake of alternative medications was found in 51 (12.46 %) patients and 70 (17.11%) patients had history of alcohol intake. Chronic Hepatitis C and Human immunodeficiency virus (HIV) was found in 2 (0.48%) & 5 (1.22%) patients respectively. There were no risk factors found in 62 (15.15%) patients. Surprisingly no patient admitted for intravenous drugs abuse which can be due to willful hiding of information for personal reasons (Figures1-6).

Discussion

HBV infection endemicity has been reported in various countries but now more number of cases is being diagnosed to be suffering from HBV infection and related morbidity & mortality. Around 2billion people have been infected worldwide and out of them, 350 million suffer from chronic HBV infection. In 20–30% of adults who are chronically infected will develop cirrhosis and/or liver cancer.12-15 The prevalence of Hepatitis B surface antigen (HBsAg) is used to classify geographical areas as high (where >8% of the population is HBsAg positive), intermediate (2–7%) or low (<2%) HBV endemicity.16 One of the most important reasons for diagnosing of more number of cases of acute hepatitis B is more frequent testing of complete viral screen i.e. HbsAg, anti HCV antibody and anti HIV antibody test in patients of acute viral hepatitis which was not done in past practice of dealing with such patients. The reasons for diagnosing more cases of acute hepatitis B can be attributed to increase testing for HbsAg in jaundice patients. Moreover other important factors for detecting more patients of acute hepatitis B is due to HbsAg testing before surgery as Pre-anesthetic check up, in pregnant females, in voluntary blood donors and screening camps for Hepatitis B & C. However, increased number of acute hepatitis B patients can also be attributed to widespread availability of injectable therapies, that too without proper safety precautions and the illicit use of injectable drugs. The present study highlights more involvement of male gender in younger age group. The reason for very low percentage of cases in below ten years of age group can be due to effective implementation of hepatitis B National immunization program under which for last four years, majority of the newborns born in India are started on hepatitis B vaccination at the time of birth. The lesser involvement of older age group i.e. above 70yrs, can be attributed to lower exposure to risk factors, in view of remaining predominantly at home in safe surroundings.
The accurate determination of incidence of HBV infection is not possible in view of large pool of asymptomatic cases and under reporting of cases. The reason for rural (village background) predominance of acute hepatitis B can be attributed mainly to unsafe needle practices. The other reasons attributed are percutaneous exposure to blood and blood products, tattooing, reuse of shaving blades by barbers previous history of surgery etc. The patients usually hide history of multiple sexual partners and intravenous drug abuse due to social stigma associated with them, thus leading to falsely low level of reporting of these risk factors. The epidemiological factors are different in developing and developed countries; hence strategies to control this disease should be planned accordingly. The most important intervention is to ensure safe blood donation as well as needle practices. The early detection of cases and timely treatment can also help in decreasing pool of this disease.

Results

The acute hepatitis B is becoming a significant health problem in certain hotspots, especially in young males of village background which can be due to unawareness, unhygienic practices and inadequate health care infrastructure. The unsafe needle injection practices are significant in spreading of this disease as evidenced by analysis of risk factors in this study like history of past surgical interventions, dental procedures and tattooing. It is important to increase the awareness level for this disease both in society and health professionals. In the initial stage, the thrust should be on hot spots having more disease burden.

Conclusion

Acute Hepatitis B is a significant problem and every patient presenting with jaundice must be screened for the same. All patients presenting with acute hepatitis B should be rigorously followed, as many of them, depending upon the age, can develop chronic hepatitis and ultimately chronic liver disease and hepatocellular carcinoma.

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Conflicts of interest

None.

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