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Seroprevalence of Hepatitis B Surface Antigen in a Tertiary Care Centre.

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Abstract
Background:*Hepatitis B is a serious global and public health problem. The study of its seroprevalence is important,therefore not only to assess the magnitude and dynamics of disease transmission but also for its prevention and control.*
Objective:This study was undertaken to estimate the seroprevalence of hepatitis B surface antigen amongst patients attending a tertiary care hospital.
Materials and Methods*:This was a retrospective hospital record-based study descriptive conducted between January 2015 and jun 2017. The sera were tested for hepatitis B surface antigen using HBsAg Rapid test Kit (HEPA™CARD)*
Results:*The seroprevalence of HBsAg was found to be 5.04%.*
Conclusion:The study throws light on the burden of Hepatitis B in the community in and provides a reference for future studies.
Keywords:*Hepatitis B, seroprevalence,HbsAg*

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I. Introduction

Hepatitis B virus (HBV) infection is a significant global health problem. It has been suggested by World Health Organization (WHO) that more than 2 billion people worldwidehave been infected with HBV. Of these, approximately 350 million individuals have chronic (long-term) liver infections and they are at risk of liver cirrhosis and hepatocellular carcinoma (HCC) and eventually death. Hepatitis b accounts for about 780 000 death every year due to the acuteor chronic consequences of hepatitis B [1–4]. India has been placed into the intermediate zone of prevalence of hepatitis B (2–7% prevalence rates by WHO).[5]Indiahas around 40 million HBV carriers. It is expected that, about 15–25% ofHBsAg carriers progress to cirrhosis and livercancer and may die prematurely. Infancy and childhood infection have the greatest risk ofbecoming chronic.Every year in India nearly the 2.6 Crore (26 million) infants are born,of whom approximately 10 Lakhs (1 million)run the life-time risk of developing chronic HBV infection[6]Epidemiological data on HBV infection is thereforesignificant for strategies to tackle the spread of the disease. It is imperative to reliably determine the burden of HBVdisease in India.Hepatitis B is vaccine-preventable disease .Asa result, focused efforts can be made to prevent the spreadof HBV, and thereby reduce the burden of HBV relatedchronic liver disease in the country..

II. Material And Method

This was a retrospective hospital record-based descriptive study conducted between January 2015 and jun 2017.2mls of blood from patients were drawn after obtaining informed consent, using a sterile syringe and needle. Samples were transferred into a universal glass container. These were adequatelylabeled and allowed to stand between 4-6 hours to obtain the sera. The sera were tested for hepatitis B surface antigen using HBsAg Rapid test Kit (HEPA™CARD) according to the manufacturer's direction. Itis a qualitative test based on immunochromatography sandwich principle. The test card includes a combination of monoclonalanti-body gold conjugate (colloidal gold) and polyclonal solid phaseantibodies which selectively binds Hepatitis B surface antigen with highdegree of sensitivity.

III. Result

The present retrospective hospital record-based study was conducted at a tertiary care teaching hospital in Agra, India.Data was collected over a period of 2&1/2 years from January 2015 to June 2017. 16,960 sera samples were tested for HbsAg detection.855 cases were detected positive. The overall seroprevalence of HBsAg was found 5.04%. Amongst 855 positive cases 293 were females and 562 were males. Thus ,of the positive cases 34% were females while males were 66%.

IV. Discussion

In our study, we got seroprevlance of Hepatitisb surface antigen to be 5.04%. This is in correlation with other studies.AbhijitChowdhury (2004) in his review article on hepatitis B epidemiology, reported seroprevelance between 3-4% [7] . The overall carrier rate in India is often quoted as being 4.7%[8]. However, Lodha et al. (2001) have suggested the prevalence rate in India as 1–2%.[9].The prevalence of HBsAg varies widely in different parts of the India and its subpopulations, and this depends on a variety of inter-related factors which include historical, behavioural,environmental type of population studied, geneticfactors, socioeconomic status and other risk factors.In a study conducted in a hospital-based population at Kathmandu Medical College Hospital, Nepal, the prevalence rate of viral hepatitis B was found to be 2.5%.(10) The prevalence of HBsAg in patients attending a surgical OPD in Rawalpindi, Pakistan, has been reported as 2.28%.[11] The prevalence of hepatitis B varies from country to country and depends upon a complex mix of behavioral, environmental, and host factors. In general, countries or areas with high standards of living (e.g., Australia, North America, North Europe) have low prevaplanceof HbsAg and it is highest in countries or areas with low socioeconomic Levels (e.g., China, South East Asia).In our study,amongst HbsAg positive population, 34% were females while males were 66%. Higher prevalence of HbsAg is reported in males than in females. In a study on hospitalized patients in Manipal, Dutta et al. observed HBsAg positivity of 35.3% in males versus 19.3% in females[12] No specific explanation has been offered for the higher prevalence in males in the general population but probably females clear the HBV more efficiently as compared to males.[13]

V. Conclusion

We found the prevalence of HbsAg among populations to be 5.04%.This figures may be useful in estimation ofthe burden of the disease in the country and for realizing the need of proper immunization.

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