

PREVALENCE OF THE HbsAg POSITIVE CASES.

DR. ABDUL SALAM

Assistant Professor of Pharmacology
Bolan Medical College, Quetta :

**NirmalDas*

**Amir Mohammad*

*Bolan Medical College, Quetta

*** DR. M. MASOOM YASINZAI**

*** MOHAMMAD HALEEM TAJ**

ABSTRACT

A study was conducted in the pathology department of Bolan Medical Complex Hospital from 1st January 2001 to 31st December 2001 for the prevalence of HbsAg positive cases. Blood sample of total 2101 patients, (both indoor and outdoor) were tested for Hepatitis B surface antigen (HbsAg) during the above duration. Out of 2101 samples tested, 86 (4.1%) were found positive. Out of 86.70 (81.4%) were male and 16 (18.6%) were female. 69 (80.2%) were adult and 17 (19.8%) were children. Average age was 28.5 years. This study confirms that our country falls in the category of intermediate prevalence for Hepatitis B Virus (HBV) infection 3-5%)². Our results 4.1% are comparable with results of S.A Mujeeb³ found in Karachi.

Key Words: Prevalence, Hepatitis B Surface antigen HbsAg). Hepatitis B Virus (HBV) V

INTRODUCTION

Viral hepatitis is a worldwide infection. This enigma was first disclosed by Blumberg¹. It is caused by type A-F viruses⁴. Hepatitis B virus (HBV) has more prevalence and causing diverse clinical outcome, ranging from asymptomatic self-limiting infection to chronic hepatitis with cirrhosis and hepatocellular carcinoma⁵.

Hepatitis B virus, previously known as serum hepatitis, results from blood borne, sexual and perinatal transmission. Groups at risk include health care workers, infants born to infected women, sexual contact of infected persons, intravenous drug users, addicts, blood donors and hemodialysis patients.

As spread of HBV is mainly from parenteral,

(injection, blood transfusion and hemodialysis) and sexual contact, recognition of carrier state, safe blood transfusion, use of disposable syringes should be encouraged, parenteral use of medicines by quakes and drug user should be discouraged to control the spread of the disease⁸.

Health care workers logically are at increased risk especially those working in hospitals, laboratories, hepatobiliary units and hemodialysis units^{9,10}. Accidental needle pricks can cause infection in any person especially junior doctors and nurses and accidental sucking and splashing in laboratory workers.

This study was designed to evaluate the positive cases of hepatitis B surface antigen in patients (both indoor and outdoor) referred to the laboratory of the pathology department of the Bolan Medical Complex Hospital Quetta by various doctors of the same hospita. As this is the only teaching and largest provincial hospital, so the number of patients coming was large enough to help estimate the prevalence of positive cases and to estimate the provision of hepatitis B vaccine for the coming patients in the future and to develop awareness in general population.

PATIENTS & METHODS

Blood samples were collected for hepatitis B surface antigen screening from the patients (both indoor and out door). These patients were referred to the pathology department, of the said hospital by various doctors of the hospital.

MINI CLIP HbsAg One Step Test Kit made Vedalab of France was used for the screening of

hepatitis B surface antigen in the laboratory of pathology department. This kit has direct binding monoclonal-based immunochromatographic immunoassay for the visual detection of hepatitis B surface antigen in the serum of specimens, to aid in the diagnoses of hepatitis B infection.

RESULTS

A total of 2101 samples were tested for hepatitis B surface antigen over duration of one year. Out of these 86 i.e. (4.1 %) were found to be positive. The age of these patients ranged 6-57 years, while 28.5 years was the average age. 70 (81.4%) were male and 16 (18.6%) were female. 69 (80.2% were adult and 17 (19.8%) were children.

Out of 86 positive cases, 5 (5.8%) indoor and 7 (8%) outdoor patients were having clinical sign/symptoms of jaundice and remaining without sign/symptoms. 61 (71%) were of low socioeconomic status. Literacy rate was 4 (4.7%). Out of 70 male 51 (73%) were clean-shave.

Six persons admitted as indoor patients were positive for HBV surface antigen in routine presurgery investigations. Pakistan and its neijhboring countries have prevalence of 3-5% for HBV infection², our result (4.1%) falls in the same category. The result obtained by Mujeeb among family blood donors is 4.9%³.

DISCUSSION

Hepatitis B is a worldwide infection. Approximately 5% of the world's population have chronic HBV infection. An estimated 500,000 -1,000,000 persons die annually from HBV-related liver diseases. Countries are classified

as those with low endemic rates [$<2\%$ of the general population has the antibody to the hepatitis B surface antigen (HbsAg)], intermediate endemic rates (2-8% positive for HbsAg), or high endemic rates (78%) positive for HbsAg¹².

Pakistan falls in the category of intermediate prevalence for HBV infection¹, Range of prevalence in our country varies from 1.4 to 10.7% in general population¹².

Malik¹³ and colleagues have shown a prevalence of 10% amongst the Armed Forces personnel. Zuberi and Lodhi¹⁴ have shown carrier rate of 3.42% while Janjua and Hussain¹⁵ have reported 2.9% prevalence in the mixed community.

Yousaf and Yoursaf⁶ reported a 3.76% carrier rate among the healthy subjects. A study, performed by Shah and Khan¹⁷ at Ayub Medical College shows the prevalence of 7.1%. Zahid and colleagues¹⁸ found 5.23% of health care workers to be positive for Hepatitis B surface Antigen at Lahore.

Results obtained by Mujeeb from family blood donors were 4.9% and our incidence of 4.1% is nearer to his results.

Bolan Medical Complex Hospital is the only teaching and provincial headquarter hospital, patients coming to this hospital are not only from all over the province but also from Afghanistan and Iran. Afghan refugees also get treatment from the same hospital. In our study all above patients were included. We found that the incidence of HbsAg was higher in patients coming from urban areas than rural areas.

Though prevalence of HbsAg in hospital staff in this hospital is lacking, but in the light of results obtained from other large hospitals of the country (as above and our result show), chance of infection caused by HBV is higher in this hospital.

As doctors, medical students, nurses and other medical staff are exposed to the risk of getting HBV infection, they must be vaccinated. Although Government has announced the new policy, for vaccination against HBV, it is hoped that every individual would be vaccinated.

Exposed to get infection, they should observe strict precaution during operation, making and maintenance of IV lines, during injecting medicines and during handling wastes.

Screening of blood donors, hospital staff and patients going through surgical procedures should be compulsory.

CONCLUSION

The findings of this study showed prevalence of 4.1% of HbsAg, in patients coming to and seeking treatment from this hospital from 1st Jan 2001 to 31st Dec 2001. It also shows similarity w'th the results of other big hospitals of the country. Vaccination and awareness are the suggestions for the future.

REFERENCES

1. Blumberg BS et al. A serum antigen (Australia antigen) in Down's syndrome, leukemia and hepatitis. *Annals of Internal Medicine*. 1967: 924-931
2. Hussain KB. Treatment option for chronic hepatitis B, *Journal of Pakistan Medicinal*

- Association, 2001; 51 (9):3-6. 2: 172-174.
3. Mujeeb SA, Khalid Mehmood. Prevalence of HBS. HCV and HIV infections. J. Pak Med Assoc, 1991; 41: 253-4.
 4. Grabow WOK. Water quality. Health Stream Issue 1998; 9:2-13.
 5. Thomas HC and Thursz MR. Immunogenetics of hepatitis B virus infection. Journal of Viral Hepatitis 1997; 2(4): 98-100.
 6. Milich DR. Pathology of acute and chronic hepatitis B virus infection. An introduction. Journal of Viral Hepatitis, 1997; 4(Suppl2):25-30.
 7. Steven CE, Beasley RP, Tsu J et al. Vertical transmission of hepatitis B antigen in Taiwan. N.Engl J Med, 1985; 292:771-780.
 8. Khan AJ, Luby SP, Fikree F et al. Unsafe injections and the transmission of hepatitis B and C in a periurban community Karachi. Bull. WHO. 2000; 78: 949-52.
 9. Akbar M and Hafiz A. A seroepidemiology of Hepatitis B in hemodialysis units, Pak J Med Research 1986; 25(4): 192-1996
 10. Pattison CP, Mayard JE, Berquist KR et al. Serological and epidemiological studies of hepatitis B in hemodialysis units. Lancet 1973; 2: 172-174.
 11. Alexander, T Kessler. MD. Excerpt from hepatitis B, Medicine 2002, Sed: 1-4.
 12. N. Khokhar. Spectrum of Chronic Liver Disease in a Tertiary Care Hospital. JPMA. 2000, 52(2): 56-58.
 13. Malik IA, Luqman M, Ahmad A et al. A clinico pathological study of viral hepatitis. Pak J Med Res. 1987; 26: 4-11.
 14. Zuberi SJ and Lodhi TZ. Hepatitis B antigen in blood donors in Karachi. JPMA, 1974; 24: 126-27.
 15. Janjua IM, Hussain M. Hepatitis B virus surface antigen in voluntary blood donors and patients with acute hepatitis. Pak J Med Res. 1990; 29(3): 160-62.
 16. Yousaf M and Yousaf N. Prevalence of hepatitis B carrier among health care workers. Pak J Med. Res. 1988; 27: 168-9.
 17. Shah SH, Khan JA, Khan MH and Khaliq MA. Prevalence of hepatitis B carrier in Hospital staff. Pak J Med Res. 1991; 30(2): 96-97.
 18. Zahid MA, Rehan K, Janua IM, Haider Z. Prevalence of Hepatitis B surface antigen among health care workers in General Hospital. Pak J Med Res. 1991; 30(3): 89-100.

**Always laugh when you can; it is
a cheap medicine.**

George Gordon Byron