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AUSTRALIA ANTIGEN (HBsAG) IN INSTITUTIONALISED SCHIZOPHRENICS

S.CHAUDHURY, S.CHANDRA, G.S.CHOPRA, M.AUGUSTINE

SUMMARY

In a study of sixty institutionalist Schizophrenic patients, sixty chronic schizophrenic outpatients and an equal number of age and sex matched normal controls from the same regional background, the prevalence of HBsAG was six, one and zero respectively. Institutionalized schizophrenic patients are a high risk group for hepatitis B virus infection.

INTRODUCTION

Transmission of hepatitis B virus (HBV) through blood transfusion, plasma concentrates, contaminated needles, syringes or through small breaks in the skin as well as homo and heterosexual activities is well established. In addition, suggested means of person to person transfer include kissing (Villarejos, 1974), biting (McGuarries, 1974), sharing of razors and toothbrushes (Mosley, 1975) tattooing and scarification. The role of spread by insect vectors is still unclear (Wright, 1990). Studies have shown a high incidence of HBsAG in parenteral drug users, male homosexuals, immunosuppressed patients, hemophiliacs, patients on dialysis, health care workers, ambulance personnel and in institutions like retirement homes, institutions for the mentally retarded and prisons, and also to a lesser extent among family members of chronically infected persons (Wright, 1990; Dienstag, 1991).

Some chronic schizophrenic patients are institutionalized for prolonged periods. They are prone to violent behavior and are often given parenteral injections; they also undergo various laboratory tests for which blood is drawn. Little is known about their sexual habits. No study has yet been carried out to determine the prevalence of HBsAG in these patients. The paucity of work in this field promoted us to undertake a study to determine the prevalence of HBsAG in institutionalized schizophrenic patients.

MATERIAL AND METHODS

The patient sample consisted of all male patients admitted to Mental Hospital, Bareilly for more than five years and meeting the DSM-III R criteria for schizophrenia. Equal number of age and sex matched normal subjects without any physical or mental illness formed the normal control group. Another control group consisted of equal number of outpatients meeting DSM-III R criteria for schizophrenia and symptomatic for at least five years but who had never been admitted to any mental hospital. Both the control groups were from the same regional background as the institutionalized group.

Exclusion criteria for patients and controls were as follows:

1. Past history of jaundice.
2. Clinical evidence of jaundice or hepatomegaly.

All patients and controls were examined independently by two psychiatrists to confirm the diagnosis and the absence of exclusion criteria; they were included in the study only after the concurrence of both psychiatrists.

Blood samples were collected by venepuncture and immediately transferred to the pathology laboratory of Mental Hospital, Bareilly where the serum was separated and stored. The pathologist was blind as to whether the sample was from patient or control group. Detection of HBsAG was done by the Reversed Passive Hemagglutination Test (Horowitz et al, 1977a, 1977b) using Rapadex B Kits supplied by Orthodiagnostic systems, Bombay. In addition liver function test, SGOT & SGPT (Varley, 1987) were also performed. Statistical comparisons were carried out by the Chi-square test (with Yates correction).

RESULTS

The mean and range of age of the patients and controls are given in Table 1. here The mean duration of hospitalization of institutionalized schizophrenic patients was 18.7 years (range 5 years to 49 years). The liver function tests, SGOT & SGPT of all the patients and controls were within normal limits. Six out of the sixty hospitalized schizophrenic patients were positive for HBsAG compared to one of the non institutionalized schizophrenic patients and none of the sixty normal subjects. The difference was statistically significant (X^2= 9.22; df=2; $p<0.01$).

Table 1:
Comparison of institutionalized schizophrenics, non-institutionalized chronic schizophrenics and normal controls.

	Institutionalized Schizophrenics (n = 60)	Non-institutionalized Schizophrenics (n = 60)	Normal controls (n = 60)
Mean age in years	50.43 (30 - 89)	42.6 (26 - 69)	50.43 (30 - 89)
Mean duration (range) of hospitalization in years	18.7 (5 to 49)		
HBs Ag Positive	6	1	

DISCUSSION

The major finding of our study was that institutionalized schizophrenics had a significantly higher incidence of HBsAG as compared to normal controls and also non-institutionalized chronic schizophrenics. This being the first study of its type, comparisons with other studies was not possible. However, in our opinion, this high incidence is a very important finding and similar studies must be carried out in other mental hospitals.

The reasons for such a high carrier rate remains unclear. Nosocomial transmission is probably the most likely cause in our setting where needles and syringes are boiled before use and not autoclaved. Spread through shared razors and homosexual practices also cannot be ruled out since the patients remain in closed wards for prolonged periods. However, on interview none of carriers admitted to indulging in homosexual practices.

According to conservative World Health Organization estimates (Sobeslavsky, 1980) it is believed that over one billion people in the world have been infected by HBV, over 200 billion are chronic carriers and over two million die annually of the disease. In India there are about twenty million carriers, about 25% of whom may develop cirrhosis and/or liver cancer (Joshi, 1988). The disease is incurable and till recently the only known preventive measure was avoiding contact with infective blood and other body fluids. The recent introduction of a safe and effective vaccine has changed this gloomy outlook. However, due to high cost universal immunization is not practicable. The currently preferred strategy is to define groups which are at high risk and to offer them immunization against HBV (Wright, 1990). Our study is a step in identifying a hitherto unrecognized group of patients who are at high risk for HBV infection.

We conclude from our study that chronic institutionalized psychotic patients are a high risk group for HBV infection and are likely to benefit from immunization against HBV.

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S.Chaudhury[*]*, Psychiatrist, 151 Base Hospital, C/O 99 A.P.O.; S.Chandra, Senior Psychiatrist; G.S.Chopra, Pathologist, Mental Hospital Bareilly (UP); M.Augustine, Specialist Sister (Psychiatry), 151 Base Hospital, C/O 99 A.P.O.*

[*]**Correspondence**