

Prevalence of Hepatitis-B Antigen in Various Population Groups of N.W.F.P

Pages with reference to book, From 122 To 123

Mohammad Iqbal Khadim (Assistant Professor, Dentistry Department, Khyber Medical College, Peshawar.)

Abstract

Sera from 80 blood donors and 60 apparently normal medical students were screened for HB_s Ag. Among the blood donors 11.3% were HB_s Ag. positive and in the students group 11.7% showed a positive result. The high frequency of HB_s Ag. positive results indicates that hepatitis-B antigenemia is quite common. If all these 140 individuals are taken as donors, than it is evident that 16 donors will act as a potential source of transmission of hepatitis to the recipients. It is, therefore, suggested that the test for detection of HB_s Ag in the donor blood should be done as a routine, along with the blood group and Rh factor (JPMA 32:122, 1982).

Introduction

Hepatitis type B generally is transmitted by inoculation of human blood or blood products containing hepatitis-B antigen (HB_sAg) or materials contaminated with the antigen (Barker et al., 1970; Gocke and Howe, 1970; Gocke, 1972). The detection of HB_sAg in faeces (Grob and Jemclka, 1971), bile (Akdamar et al., 1971), urine (Tripatzis and Horst, 1971) and saliva suggests that transmission may occur by faecal-oral route but the most common route of infection is parenteral, mainly by transfusion of infected blood (Kattamis et al., 1974). Pooling of blood products increases the risk (Allen et al., 1950) and blood fibrinogen carries a particularly-higher possibility of transmitting hepatitis type B (Boeve et al., 1968). Since the transfusion of blood, containing HB_sAg is followed by an increased incidence of post transfusion hepatitis (Gocke et al., 1970) the study was undertaken to determine the prevalence of HB_sAg in the donor population belonging to the North West Frontier Province (NWFP) of Pakistan.

Material and Methods

Studies were conducted on sera obtained from 80 blood donors (Khyber Teaching Hospital and Lady Reading Hospital, Peshawar) and 60 apparently healthy medical students. The reverse Passive Hemagglutination test was used for the detection of HB_sAg. All the blood donors were healthy and there was no history of hepatitis or parenteral exposure. The distribution of these individuals according to their age group and place of residence is shown in Table I and II respectively.

Table I

Distribution of the Individuals According to
Their Age.

<i>Age in years</i>			<i>Number</i>	<i>Percentage</i>
15-20	..	..	63	45.0%
21-30	..	..	57	40.7%
31-40	..	..	16	11.4%
Over 40	..	..	4	2.9%
Total	..	..	140	100%

Table II

Distribution of Individuals According to the
Place of Residence.

<i>Place of Residence</i>			<i>Number</i>	<i>Percentage</i>
Peshawar	..	..	72	51.4%
Mardan	..	..	22	15.7%
Northern regions	..	..	18	12.9%
Southern regions	..	..	19	13.6%
Others	..	..	9	6.4%
Total	..	..	140	100%

Results

The overall frequency of HB₅Ag is shown in Table III.

Table III
Frequency of HB₅Ag in 140 Individuals.

<i>Group</i>	<i>Total</i>	<i>HB₅Ag Positive</i>	<i>Percentage</i>
Blood Donors	80	9	11.3%
Medical Students	60	7	11.7%

Among the blood donors 9 (11.3%) subjects were HB₅Ag positive and in the student group 7(11.7%) individuals showed a positive response.

Discussion

The incidence of hepatitis-B antigenemia detected in 11.3% blood donors and 11.7% apparently healthy individuals in this study is much higher than that of other investigators in Pakistan (Zuberi and Lodi, 1974; Zuberi et al., 1978; Qureshi et al., 1978), but lesser than that described in other countries (Watson et al., 1973). This may be due partly to variation in the sensitivity of the techniques used for detection of the antigen and partly to a small number of individuals tested in this study. The exposure rate to HB₅Ag is high in lower socio-economic groups (Chcrubin et al., 1972). Since the socioeconomic status in Pakistan in general and in N.W.F.P. in particular is very low, the high frequency of HB antigenemia in blood donors may be related to repeated exposure to HB₅Ag due to low standard of living. The unusually high frequency of HB₅Ag among medical students may be related to close person to person contacts (Sutnic et al., 1968). Lack of history of hepatitis or parenteral exposure to blood products in these individuals indicate non-parenteral mode of infection, a mode generally favoured by poor sanitation, unhygienic habits and overcrowding (Sama et al., 1973).

The above mentioned observations indicate that hepatitis antigenemia is quite common. The findings also reveal that the incidence among the blood donors is almost similar to that of the other group. If all these 140 individuals are accepted as donors then it is evident that almost 11.4% form a potential source of transmission of hepatitis. In view of this situation, it is of utmost importance that the blood of every donor should be Hepatitis 5 screened for the presence or absence of hepatitis-B antigen. This procedure will be an effective safeguard against the transmission of hepatitis in recipients.

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