Prevalence of Hepatitis B Virus in Dental Clinics in Rawalpindi/Islamabad

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Madam, Highest rates of Hepatitis B Virus (HBV) infection are found among the people who have an increased risk of exposure to blood or blood products. Prominent among these are health care workes[1] paiticularly laboratory staff, dentists, surgeons, hemodialysis patients, intravenous drug users[3] and babies of HBV positive mothers[6]. Nosocomial outbreaks have also been described in dental clinics[4]. A lethal outbreak of hepatitis B in a dental practice has been reported in India[5].

A questionnaire was filled for each subject which included details about practices and procedures in dental clinics, history of accidental pricks and previous or present HBV infection. Blood samples from 60 subjects of all age groups fmm the medical and paramedical staff of six dental clinics were collected. Samples were tested on a sensitive enzyme mmune-assay (EJA) Abbott, USA kit.

All subjects were negative for Hepatitis B surface antigen (HBs Ag) and Hepatitis B core 1gM antibodies (anti-HBc,IgM). 26.6% (16/60) were positive for hepatitis B core Total antibodies (anti-HBc IgG) an indicator for the past infection, 46.6% (28/60) for Hepatitis B surface antibodies (anti HBs Ab) and 26.6% (16/60) for both anti-HBsAb and anti-RBc IgG. Twenty percent (12/60) were negative for anti-HBs and positive for anti-HBc IgG.

No one reported any symptoms of hepatitis during the past 3-6 months and at the same time all the dental and para-medical staff are negative for both HBsAg and HBcIgM indicating no active infection with HBV. Anti-HBs antibodies were found in 26.6% who have had no history of vaccination against HBV.

Table. Tests for Hepatitis B virus markers

Test	Positive	Negative	%Positive	%Negative
HBsAg	-	60	0	100
anti-HBcIgM	-	60	0	100
anti-HBcIgG	16	32	26.6	73.4
anti-HBs	28	44	46.6	53.4

Detection of both anti-HBs and anti-HBC antibodies in 26.6% (16/60) indicate sub- clinical infection with HBV and confirms immunity against re- infection with HBV. The presence of anti-HBc IgG in 16.6%(10/60) with no detectable anti-HBs antibodies signifies the potential for developing chronic HBV infection.

The data indicates inadequacy of protective measures as 50% (32/60) are using gloves and masks during dental procedures, 90% (54/60wash hands and 76% (45/60) treat injunes like abrasion, cuts after dental procedures. Out of 50% who used gloves 49.45%(17/32) are positive for anti-HBsAb, 37.5% (12/32) are positive for anti-HBc IgG, 25% (8/32) are positive for both anti-HBsAb and anti-HBcIgG, 25% (8/32) are positive for both anti-HBsAb and anti-HBcIgG, creating doubts about strict use of gloves during every procedure.

In this study we conclude that the absence of clinical history of hepatitis in dental and para-medical staff cannot exclude the HBV infection. Only HBs Ag test cannot rule out the HBV infection in the

absence of anti-HBcIgG test, a marker of past infection.
The dental, medical, para-medical staff and those who have the occupational hazard of acquiring HBV infection should use the universal precautions or bio-safety to avoid the transmission of HBV infection: to the patients or vice versa. The vaccination against HBV should be made mandatory for all dental, medical and paramedical staff and contacts of the HBV infected patients.
Both the HBsAg and anti-HBcIgG test should be made mandatory for blood banking and for all medical and para-medical staff who are in immediate contact with patients and also for those who are candidates for vaccination against HBV.

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References

1. Lettau, LA, Smith JD, Williams D eta!. Transmission of hepatitis B withresultant restriction of surgical practice. JAMA, 1986;255:934-937.
2. Kane MA, Lettau LA. Transmission ofHBV from dental personnel to patients. Am. Dent. Assoc., 1985;1 10:634-636.
3. Centers for disease control. Changing pattern ofgroups at high risk for hepatitis B intheUnited States. MMWR., 1988;37:429- 432.
4. Polish LB, Shapiro CN, Bauer F et a!. Nosocomial transmission of hepatitis B associated with the use of single loaded finger stick device. N. Eng!. J. Med., 1992;326:721 -725.
5. Shaw FE Jr., Barrett CL, Hamm R et al. Lethal outbreak ofhepatitis B in a dental practice. JAMA, 1986;20:255(23)3260-4.
6. Beasley RP, Trepo C. Stevens CE, Szmuness W. The e antigen and vertical transmission of hepatitis B surface antigen. Am. J. Epidemiol.. 1977; 105:94-98.