

HEPATITIS B VACCINATION:

Status and Awareness in the House Officers of Civil Hospital Karachi

Hepatitis B (HB) is acquiring the status of a major pathogen causing morbidity and mortality in Pakistan. As it is a preventable disease, all of its complications may be prevented by proper immunization. In UK, the prevalence of HB in hospitalized patients is about 1%. Although no figures of prevalence of HB in hospitalised patients in our country are available, but it seems to be much higher. The doctors and medical students are at very high risk to get HB through patient contact and needle pricks. Autoinoculation is more likely to occur early in a medical career owing to inexperience. The awareness of HB vaccination in general population of our country is very poor and the vaccination rates are very low. This study is designed to assess the status and awareness of HB vaccination in the House Officers (HO) working in the Civil Hospital, Karachi.

SUBJECTS, METHODS & RESULTS

House officers working in different departments of Civil Hospital Karachi were invited to fill up regarding their hepatitis B vaccination status and their opinion. The questionnaire asked (i) whether they were vaccinated or not, (ii) if yes, when and by which schedule (0,1,6, or 0,1,2,12), (iii) whether they checked their antibody titer, if yes, (iv) What was the value. The second part of the questionnaire related to the opinion of the HO about HB vaccination. It asked, (i) The best timing of vaccination in Medical personnel, (ii) The best schedule, (iii) duration the immunity lasts after the vaccination, and (iv) safety after vaccination.

Two hundred four (204) HO returned the questionnaire duly completed and only these were included in the study. Their departmental break-up is, Medical and Allied Departments 145, Surgical and Allied 45, Obst/Gyn 14.

The results of Hepatitis B Vaccination status are given in Table - I while those of awareness are given in Table - II.

DISCUSSION

Hepatitis B widely recognized as an important public health problem causing high morbidity and mortality ranging from acute hepatitis to fulminant hepatic failure and from chronic hepatitis to cirrhosis and hepatocellular carcinoma. All this may be prevented by vaccination against HB. In our survey we found only 34.8% of the HO were vaccinated. The vaccination status in the paramedical staff is thought to be further lower. Only 1.96% (4) HO checked their antibody titer after immunization and one of them had non protective levels of 10 IU/l. Vaccination failure rates of up to 23% had been reported stressing the need to check the antibody titer after vaccination. In our survey only 28.43% of HO were of opinion that immunization should be done on admission in the medical college, as with the other two options the contact with the patients would begin before the adequate immunity has developed. The mean levels of HBs Ab after 2 & 12. The antibody levels gradually falls in a very predictable manner and a booster is recommended every five years.

The rate of hepatitis B infection has remained high despite immunization programmes targeting high risk groups and infants of HBsAg positive mothers. In with 300,000-600 new cases and 5000 related deaths occurring annually despite high risk group immunization. As a new strategy to control the spread for Disease Control recommended in November 1991 universal hepatitis B immunization of infants. In February 1992 the American Academy of Paediatrics issued a similar comprehensive three phase strategy to eliminate the hepatitis B infection, universal vaccination of all infants and selected vaccination of high risk adolescents and adults.

Hepatitis B vaccine may be incorporated into the EPI programme as the immune response to HBsAg, BCG and polio vaccines injected simultaneously were comparable to those observed after separate administration of each vaccine without any increase in adverse reactions. Several studies to examine the cost effectiveness of the universal HB vaccination in infancy have concluded that it is medically and economically cost effective and justifiable.

We recommend that the universal vaccination of infants for HB should be incorporated into the EPI program in Pakistan as recommended by various international advisory committees and at the same time the high risk population should also be vaccinated. All medical students should be vaccinated on admission in the Medical College and their antibody titer should be checked before their entry to the clinical side (3rd year). Students with the titer < 10 IU/l should be started by partial self financing if government could not fully finance it. Help from W.H.O could also be sought. A comprehensive propaganda scheme should also be launched using mass media for creating awareness in general public about HB vaccination.

REFERENCES.

1. Oates BC, Sidebottom AJ, Maxwell SRJ. Efficacy of hepatitis B vaccination: knowledge among clinical medical students. *BMJ* 1993; 307: 301.
2. Gilson R. Hepatitis B vaccination: Who, when and why? *Prescriber* 1992; 3: 94-100.
3. Hess G, Hingst V, Cseke J et al. Influence of vaccination schedules and host factors on antibody response following hepatitis B vaccination. *Eur J Clin Microbiol Infect Dis* 1992; Apr; 11 (4): 334-40.
4. Jilg W, Schmidt M, Demhardt J, Zechowal R. Hepatitis B vaccination: how long does protection last? *Lancet* 1984; ii: 458.
5. Reece SM. Immunization strategies for the elimination of hepatitis B. *Nurse Pract* 1993; Feb; 18(2): 42-5, 49-50.
6. Steven C, Toy P, Taylor P, Lee J, Lip HY. Prospects for control of hepatitis B virus infection: implications of childhood vaccination and long term protection. *Paediatrics* 1992; Jul; 90(1): 7-2.

Table - I:
STATUS OF HEPATITIS B VACCINATION IN HOUSE OFFICERS OF C.H.K

	MEDICINE (n=145)		SURGERY (n=45)		OBST/GYN (n=14)		TOTAL (n=204)	
	No.	%	No.	%	No.	%	No.	%
Vaccinated	50	34.48	17	37.77	4	28.57	71	34.80
During Student Life	9	6.20	1	2.22	0	0	10	4.90
During Housejob	41	28.28	16	35.55	4	28.57	61	29.90
By Schedule 0, 1 & 6	33	22.76	9	20.00	2	14.28	44	21.56
By Schedule 0, 1, 2 & 12	17	11.72	8	17.77	2	14.28	27	13.23
Ab. Titers Checked	3	2.07	1	2.22	0	0	4	1.96
Titers < 10 IU/l	1	0.69	0	0	0	0	1	0.49
Titers 11-100 IU/l	1	0.69	0	0	0	0	1	0.49
Titers > 100 IU/l	1	0.69	1	2.22	0	0	2	0.98

Table - II:
HOUSE OFFICERS' OPINION ABOUT HEPATITIS B VACCINATION

		MEDICINE (n=45)		SURGERY (n=45)		OBST/GYN (n=14)		TOTAL (n=204)	
		No.	%	No.	%	No.	%	No.	%
Timing of the vaccination of Medical personal	On Admission*	41	28.28	16	35.56	1	7.14	58	28.43
	After passing Ist Prof	60	41.38	18	40.00	4	28.57	82	39.71
	Before starting Housejob	32	22.07	9	20.00	5	35.71	46	22.55
	Don't know	12	8.28	2	4.44	2	14.28	16	7.84
Which Schedule is better	Schedule 0, 1, 2 & 12*	58	40.00	15	33.33	1	7.14	74	36.28
	Schedule 0, 1 & 6	47	32.41	15	33.33	2	14.29	64	31.37
	No diff	13	8.97	2	4.44	2	14.29	17	8.33
	Don't Know	27	18.62	13	28.89	9	64.29	49	24.02
Years immunity against Hepatitis B lasts after vaccination	2 years	12	8.28	6	13.33	1	7.14	19	9.31
	5 years*	62	42.76	14	31.11	9	64.29	85	41.66
	10 years	23	15.86	5	11.11	0	0	28	13.73
	Life long	27	18.62	7	15.56	8	57.14	42	20.59
	Don't know	21	14.48	13	28.89	5	35.71	39	19.11
Safety after vaccination from HB	Yes	85	58.62	27	60	8	57.14	120	58.82
	No*	42	28.97	10	22.22	3	21.43	55	26.96
	Don't Know	18	12.41	8	17.78	3	21.43	29	14.22

* Most appropriate answer

170-3

7. Gurtugli, Burkholder BJ, Matson CC. Prevention of hepatitis B vaccine. Paediatrics 1993 Apr; 91(4): 699-702.

8. Mahoney EJ, Burkholder BJ, Matson CC. Prevention of hepatitis B virus infection. Am Fam Phys 1993 Mar; 47(4): 865-74.

9. Coursaget P, Relyveld F, Brand A, Frenkel MP, Fritzel BJ, euhres, I et al. Simultaneous injection of hepatitis B vaccine with BCG and

Killed poliovirus vaccine. Vaccine 1992; 10(5): 319-21.

10. Krahn M, Detsky AS. Should Canada and the United States universally vaccinate infants against hepatitis B? A cost effectiveness analysis. Med Decis Making 1993 Jan-Mar.

11. Ginsberg GM, Sshouyal D. Cost-benefit analysis of a nation wide neonatal inoculation programme against hepatitis B in an area of intermediate endemicity. J Epidemiol Commun Health 1992 Dec;

46(6): 587-94.

12. Bloom BS, Hillman AI, Feindrick AM, Schwartz AS. A reappraisal of hepatitis B virus vaccination strategies using cost effectiveness analysis. Ann Intern Med 1993 Feb 15; 118(4): 298-306.

Dr. Badar Zuberi.
Civil Hospital Karachi.