

# HEPATITIS B VACCINATION IN VIETNAM - AN URGENT TASK.

Phạm Hoàng Phiệt

As other countries in South East Asia, Vietnam is a hyperendemic area of hepatitis B virus (HBV) infection. Liver cirrhosis and Hepato cellular carcinoma, the severe long term complications of chronic HBV carriers are also common in the country. Clearly, the hepatitis B is an infection of major public health importance of Vietnam. The experiences from other countries in the region clearly showed that only a nation wide programme of HBV vaccination for all newborn infants and young children is able to prevent effectively and radically this dangerous viral infection. Unfortunately, this type of vaccination can only be implemented in Vietnam in the year of 1998. Understanding the epidemiology of HBV infection in the country is one of the factors contributing to establish a good strategy of vaccination. In this report we shall present the epidemiology of this infection as well as the result of pilot study on HBV vaccination in Vietnam.

## **Epidemiology of HBV infection in Vietnam.**

The data collected from different provinces and cities in the country showed that the prevalence of HBsAg+ve in adult is from 10 to 20%. The HBV carrier rate changes with age group especially in young children. The result of our study carried out in HochiMinh city based on 9078 subjects ranging from one to 76 years old is presented in table 1.

In 4670 pregnant women (1865 in Hanoi, north of Vietnam and 2805 in HochiMinh city, south of Viet nam), the positivity of HBsAg is 522 (11,2%) and 35% of infected women has HBeAg positive. The vertical transmission from mother to newborn infant during the perinatal period is:

16% if the mother has only HBsAg positive

96% if the mother has both HBsAg and HBeAg positive.

or 44% of all mother has HBsAg+ve with either HBeAg positive or negative.

Table 1. The prevalence of HBsAg+ve and HBeAg+ve among HBsAg+ve according to age group (n=9078).

Age group	HBsAg+ve (%)	HBeAg+ve/HBsAg+ve (%)
1-3	7,8	68,8
4-6	10,3	65,8
7-10	12,2	66,7
11-15	13,5	62,8
16-20	13,3	52,1
21-30	16,6	27,3
31-40	16,3	19,1
41-50	18,7	9,0
51-60	13,6	6,7
>60	13,4	6,5

*Through this table we see that the prevalence of HBsAg +ve increases quickly until 10 years old and the contagiousness is also very high (HBeAg+ve) among infected subjects below 20 years old.*

Data from 2 big tropical disease hospitals of North and South Vietnam, HBV is always the leading known cause of all acute hepatitis (from 40 to 55% of cases).

In Hepato cellular carcinoma (HCC), the presence of HBsAg marker in patient sera is ranging from 60% to 92%. The result of our study consisting of 573 HCC cases is presented on table 2.

From above cited epidemiologic data, the following remarks can be drawn:

1. In Vietnam, both vertical and horizontal transmissions of HBV are important to maintain the reservoir of virus in the population.

2. The HBV vaccination for all newborn infant is important but may not enough if we want to decrease quickly the prevalence of HBV carrier.

3.Preventive measures should be implemented and educated even in kindergarten and in primary school for teachers and pupils as well.

4.It is evident that HBV vaccination is an urgent need for the health of Vietnamese people.

Table 2. HBsAg+ve in sera of HCC patients in Vietnam.(n=573)

Age group	Number of patient	Number of patient with HBsAg+ve	Percentage of positivity
< 20	7	7	100
21 - 40	127	110	86,6
41 - 60	286	231	80,8
> 60	153	110	71,9
Total	573	458	79,9

*In Vietnam,HBV is still the main cause of HCC*

### **Immune response to the HBV vaccine.**

Many companies have their HBV vaccine in Vietnam.The efficacy and the safety of different vaccines are quite similar according to our experience.

\*Newborn infants from non HBV carrier mothers have the responder rate of 93% to 98%,in which good response (>10miu/ml) is 85% to 88%.

\*Newborn infants from single HBsAg+ve mothers have 16% non responder and 9% infected.

\*Newborn infants from HBsAg+ve and HBeAg+ve mothers have 36% non responder and 14,5% infected.

Therefore,to increase the protective effect of HBV vaccine for babies of HBV carrier mothers we should combine it with HBIg or double the vaccine dose. These measures are more expensive and can only apply in the places where we are able to perform the HBV marker tests.