

Hepatitis B Infection – Should the Elderly be Vaccinated ?

Chandy GM, Chandy RG

Introduction

The reported prevalence of HBV infection in India is 3-5%. Universal precautions, proper sterilization of medical equipments, increased use of disposable instruments, an increase in awareness and the introduction of good blood banking procedures have helped in reducing the incidence of HBV infection. However, vaccination is the key to prevent spread of the infection.

Vaccination strategies as the key

In response to requests from the medical fraternity, the policy makers in the country considered the option of vaccinating the whole population. It was clear that though such a policy would provide long-term benefit, the expenditure would be enormous. Besides, there would be very few immediate benefits. The cost, based on the price of Rs. 40 per dose would be over Rs. 100 billion. A selective approach became necessary. Therefore high risk populations were identified. Vaccination of newborns and infants, healthcare workers, recipients of blood and blood products, patients on hemodialysis, inmates and staff of institution for the mentally handicapped, homosexual men and those with multiple sexual partners, contacts and sexual partners of HBV patients and parenteral drug abusers was advocated.¹

Vaccination strategies for the elderly

Vaccination against Hepatitis B infection in the elderly is required only if he/she falls into any one of the high risk categories. Old age itself does not increase the risk of infection. At the same time, if anyone wishes to take the vaccination against HBV infection with his/her own funds, irrespective of the risk, the individual's decision should be respected.

Vaccination for high risk groups

Elderly persons who are public safety workers who are exposed to blood in the workplace and healthcare

workers should be vaccinated against HBV infection. Surgeons, gastroenterologists, staff in operating rooms, emergency services, blood bank, hemodialysis centers, dental surgeons and assistants, nurses and laboratory technicians should be vaccinated.

Is screening prior to vaccination a good strategy?

The prevalence of HBsAg is 3-5% and that of anti-HBs is 10-12%. Thus, 13-17% may not require vaccination, presuming that titres are protective. If 1000 high-risk individuals are to be vaccinated without screening, the cost will be Rs. 1, 20,000 (at Rs. 40 per dose). If the same cohort is to be screened before vaccination, the cost of testing alone will be approximately Rs. 1,00,000. Thus, the latter approach will result in doubling the overall expenditure. Hence we would advocate vaccination without prior screening.

Is it necessary to check the anti-HBs antibody status?

People over 50 years of age exhibit a decreased antibody response to hepatitis B vaccination. Whether such individuals should be subjected to screening for anti-HBs antibodies after vaccination and whether their antibody response is adequate have not been clearly defined. When the anti-HBs response is inadequate, it may be necessary to increase the number of Hepatitis B vaccine infections or a booster dose can be considered.^{2,3,4}

References

1. MMWR. Protection against viral Hepatitis. Recommendations of the immunization practice advisory committee (ACIP) 1990; 39:1
2. Rey D, Krantz V, Partisani M, et al. Increasing the number of Hepatitis B vaccine injections augments anti-HBs response rate in HIV infected patients. Effect on HIV-1 viral load. *Vaccine* 2000; 18: 1161-1165.
3. Hollinger F. Factors influencing immune response to Hepatitis B vaccine. Booster dose guidelines and vaccine protocol recommendations. *Am J Med* 1989; 87: 5336-5340.
4. Taylor L, Garcia Z, Herrera G, et al. Low response to Hepatitis B vaccine in Costa Rican healthcare workers. *Hepatology* 1998; 27:637.

Address for correspondence:

Dr George M Chandy, Professor,
Department of Gastrointestinal Sciences,
Christian Medical College,
Vellore 632 004, Tamilnadu.
email: gmc@cmcvellore.ac.in