

## Immunogenicity and Reactogenicity of Hepatitis B vaccination in subjects over age of forty years and correlation with HLA status

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Hepatitis B related diseases infection is an important emerging public health problem all over the world, more so in the developing countries due to inadequate infrastructure of blood banks to them. Hepatitis B vaccination is one of most effective methodologies for protection against Hepatitis B associated disease Hepatitis B vaccination in the age >40 years has been found by some workers to have less response. Some workers have reported this to be genetically related to certain haplotypes.

### Aims & objectives

1. To study the Hepatitis B vaccine response in age group >40 years population.
2. To compare the HLA status of the responders and non-responders in the set of population of age >40 yrs.

### Materials and methods

A total of 147 healthy volunteers in the age group > 40 yrs. Out of 387 persons attending the Medical OPD including every third person, were selected by systematic random sampling method. Out of these 105 subjects were found to be hepatitis B virus negative and agreed to undergo the trial. After informed consent, 20ug of rDNA of Hepatitis B vaccine was administered intramuscularly at a interval of 0,1,6 months and serum samples were collected at day 90 and day 210. All the 15 patients, who did not seroconvert at 210 days and 15 patients out of the 90 those who seroconverted, selected in a systematic random manner by selecting every sixth responder. These 30 patients were evaluated for their HLA-A/B/C/D status. The serum samples were evaluated for anti-HBsAg antibodies by ELISA.

### Results

90/105 (85.7%) of the patients seroconverted by day 90 after only 2 vaccine doses had been given. Even after the third dose of the vaccine there was no increase in the seroconversion rate. There were very few minor side effects-viz pain at injection site, low grade fever etc. and no major side effects. HLA typing was done in 30 subjects-15 responders and 15 non-responders. It was found that the frequency of HLA-A1, A10, B15, B40 to be higher among non-responders although the differences were not significant. Also, HLA -C3, DR10, DQ6 were found to be higher in responders which was however not significant statistically. Thus, the study found that the Hepatitis B vaccine is safe and immunogenic in age group >40 years and no statistical significant difference, occurs in the HLA status between responders and non-responders.

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