The Immune Response of Hepatitis B Vaccination in Hemodialysis Patients Referring to the Dialysis Centers of Shomal Health Center in Tehran in 2016

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Abstract

Background and objectives: Hepatitis B virus infection is a major health problem in the worldwide. The prevalence of occult and chronic HBV in hemodialysis patients is higher than standard in developing countries. The aim of this study was to determine the immune response of hepatitis B vaccination in hemodialysis patients referring to the dialysis centers in North Health Center in Tehran in 2016.

Materials and Methods: This descriptive-correlational study was conducted among all hemodialysis patients referring to the dialysis centers of North Health Center in Tehran in 2016. A total of 304 people participated in this study. Data were collected using a checklist including age, sex, weight, frequency of vaccine injections, duration of vaccination completion, number of dialysis, per week, duration of dialysis, diabetes, high blood pressure and cigarette smoking. In these patients, the level of HBsAb was evaluated by ELISA method. Data was entered in the SPSS-21 software and analyzed by the independents t-test and Chi-Square.

Results: In this study, 211 (69.4%) of the participants were male and 93 (30.6%) were female. The mean (SD) of serum HBsAb level in the study period was 105.7 (100) in women and 90.4 (97.5%) in men. The mean (SD) of the time elapsed from the last vaccination in immune person against hepatitis B was 21.1 (19.3) months and in nonimmune was 44 (22) months (P<0.001). However, there was no significant relation between the rate of response to hepatitis B vaccine in patients with hemodialysis with gender, age, weight, number of injections of vaccine, number of dialysis per week and patient’s blood group.

Conclusion: The study showed that with the increase in the duration of the last injection of the hepatitis B vaccination in hemodialysis patients, the immune response is reduced. It seems that with the periodic control of the antibody titre, a dose of booster can be done before it is reduced.

Keywords: Hepatitis B, Hemodialysis, HBsAb, Shomal Health Center in Tehran