

Hepatitis B Virus Vaccination in Hemodialysis Patients: A Necessity for Individualizing of Immunization?

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Dear Editor,

We read with interest the review article by Houshang Sanadgol [1], on the feasibility of administering Levamisole on enhancing Hepatitis B vaccination in hemodialysis patients. The topic is of utmost importance for at least three reasons: 1. the very high rate of HBV infection in the world population which is supposed to affect up to half a billion people [2]; 2. The higher rate of HBV infection among hemodialysis patients due to the repetitive injections, blood transfusions and cross-contamination through environmental and procedural devices; and 3. the poor response to vaccinations due to the suppressed immune system. Although strict adherence to hygienic precautions has substantially reduced the rate of HBV incidence in hemodialysis patients due to the mentioned risk factors, it still sounds logical and necessary to promote protection through vaccination of this patient population. Several endeavors have been proposed to

enhance the effectiveness of vaccination in hemodialysis patients; usage of higher doses of HBV vaccine (40 µg vs. conventional 10-20 µg) in a four (than 3 in the conventional method) shot administration is one of these endeavors that has brought some hopes [3]. Some investigators have proposed to change the timing and method of vaccine administration. Jadoul et al. [4] have proposed that using 20 µg vaccine dosages every month until serum antibody titers reach 100 IU/l, or up to 10 doses to be administered. They reached to 70% protection rate one year after the study commencement. Charest et al. [5] recommended intradermal administration of 5 µg vaccine every 2 weeks for 18 months or when the peak antibody titer reaches to 1000 IU/L. on the other hand, controversial evidence also exist on whether augmentation of vaccine doses can improve immunity responses [6]. The study by Dr. Sanadgol [1] also showed that Levamisole can have



beneficial effects on the bioavailability of anti-HBV antibody titers in a significant number of patients, while it has no beneficial effects in other studies [7].

In the era of therapeutic endeavors, the literature suggests individualization of treatment of patients infected with HCV infection according to the hosts' genetic individualizations [8]. Considering dissimilar reaction to HBV vaccination in different hemodialysis patients, one may think that the same individual variations might exist in this era, as well. Evidence suggests that several host factors including advanced age, male gender, previous blood transfusions are associated with poor seroconversion rates [9]. But to the best of our knowledge, no major studies have been performed to address the issue that whether it is possible to combine our current knowledge to individualize HBV vaccination protocol for each hemodialysis patient based on its demographic, medical history and genetic factors. So, we suggest that future research efforts to be directed to address this critical issue.

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