

Hepatitis B Virus-associated Nephropathy

An International Data Analysis

Hossein Khedmat,¹ Saeed Taheri²

¹Baqiyatallah Research Center for Gastroenterology and Liver Diseases, Baqiyatallah University of Medical Sciences, Tehran, Iran

²Dr Taheri Medical Research Group, Tehran, Iran

Keywords. hepatitis B complications, kidney disease, lamivudine

Introduction. Hepatitis B virus (HBV)-associated nephropathy is one of the manifestations of HBV infection. However, since it is not common, the patient populations of reports are usually limited. In order to have a more perfect understanding of the disease, we conducted this analysis of data published in articles of the English literature on HBV-associated nephropathy.

Materials and Methods. We conducted a comprehensive search for the available publications on HBV-associated nephropathy through the PubMed. The patients were defined as pediatric when they were 18 years old or younger. The definition criteria for complete remission were in part different between studies, but a generalized definition was taken as a significant decrease in the proteinuria to levels around normal with no relapse episodes in 1 year after remission.

Results. Overall, 119 patients from 10 reports were included into this analysis. All of the patients using lamivudine experienced remissions compared to those receiving other treatment modalities ($P = .001$), of whom 72.7% (16 of 22) had complete remission ($P = .08$). None of lamivudine recipients lost their kidneys ($P = .04$). Pediatric patients were more frequently positive for hepatitis B envelop antigen ($P = .001$). Immunoglobulin A nephropathy was more frequent among adult patients ($P = .01$), and membranous nephropathy in children ($P = .01$). Children represented significantly higher levels for aspartate aminotransferase ($P = .004$) and alanine aminotransferase ($P = .002$).

Conclusions. Lamivudine therapy can effectively be used to stop progression of HBV-associated nephropathy. Pediatric patients represent different serological and laboratorial test results compared to their adult counterparts. Future studies with larger patient population are needed to confirm our findings.

IJKD 2010;4:101-5
www.ijkd.org

INTRODUCTION

Hepatitis B virus (HBV) infection has been shown to cause several extrahepatic lesions, especially through deposition of immune complexes in different organs.¹⁻⁵ The precise mechanisms by which only some of patients with chronic HBV infection develop nephritis is not well known. The diagnosis of

HBV-associated nephropathies is made by serologic evaluations for HBV antigen and antibodies and immunohistochemical demonstration of HBV-related antigens as well as immune complexes in a kidney biopsy specimen.⁶ The isolation of immune complexes from kidney biopsies suggests that this complication may be a hypersensitivity reaction to