

Evaluation of Serum IFN- γ and IL-5 Levels in Response to Entecavir Therapy in Patients with Chronic Hepatitis B Virus Infection

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Current treatment guidelines recommend the use of entecavir (ETV) as a first-line therapy for chronic HBV infection. Still little is known about its role in restoration of the exhausted HBV immune response. The aim of our study was to assess HBeAg serologic response and serum levels of IFN- γ and IL-5 before and after one year treatment with ETV in chronic hepatitis B patients (CHB) in a trial to find possible predictors for response to ETV treatment in those patients (hepatitis B viral clearance and HBeAg seroconversion). The study included 30 chronic hepatitis B patients. All patients received de novo entecavir monotherapy at a daily dose of 0.5 mg for 1 year. Virologic [HBV DNA load, HBV markers (HBsAg, HBeAg, HBeAb)], Biochemical (AST and ALT) and immunological (serum IFN- γ and IL-5) assessments were done for all patients before and a year after treatment in comparison with healthy controls. Levels of AST and ALT were significantly reduced in all treated patients and normalized in 15. HBeAg seroconversion was achieved in 17 patients, HBV DNA was markedly decreased in all patients and not detectable in 10 of them. IFN- γ level increased and IL-5 levels decreased markedly reaching normal levels. Significant relations were detected between HBV DNA, IL-5, HBeAg seroconversion and virologic response (VR) to ETV. ROC curve analysis have shown good prognostic accuracy for both pretreatment HBV DNA and IL5 levels in predicting VR and HBeAg seroconversion after ETV therapy in CHB patients, with pretreatment HBV DNA having somewhat better accuracy and higher propability for the test being correct in predicting loss of HBeAg after treatment. In conclusions, ETV markedly reduced HBV DNA and ALT levels, restored IFN- γ and IL-5 normal levels and HBeAg seroconversion was achieved in some patients. Both pretreatment levels of HBV DNA and IL5 can be used in predicting VR to ETV but HBV DNA is superior in predicting HBV seroconversion in HBeAg positive patients.