

## 신장 이식 받은 만성 B형 간염 환자의 라미부딘 내성 발생 후의 전략

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### Strategy for Lamivudine Resistance in Hepatitis B-Positive Renal Allograft Recipients

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Lamivudine has been proven to be a safe and effective therapy for chronic hepatitis B in renal allograft recipients. However, high rate of lamivudine resistance remains a serious concern and its optimal management is uncertain. This retrospective study was performed to assess the incidence of lamivudine resistance and the efficacy and safety of salvage antiviral treatment for renal allograft recipients. 94 hepatitis B surface antigen-positive patients who underwent kidney transplantation from 1997 to 2009, were reviewed. Mean follow-up was 75.7 months. Twenty-five of 67 lamivudine-treated patients (37%) developed drug resistance. The median time for the development of resistance was 76 months. In Kaplan-Meier analysis, 5- and 10-year resistance rate were predicted as 42% and 74%, respectively. In multivariate analysis, the episode of hepatitis B virus (HBV) reactivation was only a factor associated with development of lamivudine resistance (OR 5.67, 95% CI 1.32-24.34,  $p=0.020$ ) whereas hepatitis B e antigen ( $p=0.108$ ), HBV DNA ( $p=0.087$ ) and serum alanine aminotransferase level ( $p=0.965$ ) were not. After development of lamivudine resistance, 20 patients (group 1) were received salvage antiviral agent (17 of adefovir and 3 of entecavir) and 5 (group 2) were maintained on lamivudine. In group 1, fifteen (75%) showed a three-log decrease in HBV DNA titer by 6 months after development of resistance, whereas this was achieved in none of the group 2 patients ( $p<0.001$ ). Six and 12 months after occurrence of lamivudine resistance, serum alanine aminotransferase levels were significantly reduced in group 1 ( $p=0.001$  and  $p=0.002$ , respectively) but this was not significant in group 2 ( $p=0.138$  and  $p=0.080$ , respectively). In group 1, serum creatinine levels had not increased significantly at 6 ( $p=0.135$ ) and 12 ( $p=0.054$ ) months after occurrence of lamivudine resistance. Therefore, our data shows that salvage therapy with adefovir or entecavir is effective and well-tolerated in renal allograft recipients with lamivudine resistance.

**Key Words:** 라미부딘 내성, B형 간염, 신장 이식

Lamivudine resistance, Hepatitis B, Kidney transplantation