Hepatitis B Reactivation in Lymphoma Patients Receiving Chemotherapy and Lamivudine Prophylaxis at Siriraj Hospital

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Background: Reactivation of hepatitis B virus (HBV) is a common complication in patients with HBV infection who receive cytotoxic chemotherapy. In rituximab-containing chemotherapy for B-cell lymphoma, severe hepatitis due to HBV reactivation could occur. However, data in Thailand regarding the prevalence of hepatitis from HBV reactivation after chemotherapy and antiviral prophylaxis are scant.

Objective: To estimate the effect of prophylactic antiviral agent to prevent acute hepatitis from HBV reactivation in lymphoma patients with HBV infection who received chemotherapy.

Methods: Retrospective chart review was performed. Inclusion criteria included consecutive patients aged 18 years or above with lymphoma and evidence of HBV infection who received chemotherapy with antiviral prophylaxis between January 1995 and December 2017. Data including liver function test, HBV DNA level, hepatitis B surface antigen (HBsAg), anti-hepatitis B core antibody (HBcAb), regimen of chemotherapy, rituximab use, types of antiviral prophylaxis were collected. Primary outcomes were acute hepatitis (defined with ALT >50 U/L) and HBV reactivation (defined with an increase of HBV DNA level to more than 10 fold or more than 10⁵ copies/ml from baseline or detected HBV DNA from undetected level).

Results: 298 patients were included. Antiviral agent was mostly lamivudine (3TC) (95.6%). In the HBsAg-positive group, 7/159(5.7%) patients developed acute hepatitis (median time from 3TC initiation to acute-hepatitis event was 21 months), whereas, 27(17%) patients developed HBV reactivation. In the HBsAg-negative and the HBcAb-positive groups, 2/139(1.4%) patients developed acute hepatitis (median time from 3TC initiation to acute hepatitis event was 28.5 months) and 4(2.9%) patients developed HBV reactivation. All acute hepatitis events were attributed to HBV reactivation. In multivariate analysis, factors significantly associated with the occurrence of acute hepatitis were baseline ALT level above 55 U/L (p=0.004; OR=8.6) and rituximab use (p=0.049; OR=5.6).

Conclusions: Prophylactic lamivudine can prevent acute hepatitis from HBV reactivation in most lymphoma patients with HBV infection who received chemotherapy. ALT level above 55 U/L and rituximab use are significantly associated with the occurrence of acute hepatitis.

Keywords: Hepatitis B virus, Antiviral agent, Lymphoma