Hepatitis B Surveillance in Adult Chemotherapy Patients

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Abstract

Introduction: Due to a high prevalence of hepatitis B virus (HBV) in Hawai'i and the Pacific Islands and the deaths of two chemotherapy patients from reactivation, a screening protocol was created to identify chronic HBV in new chemotherapy patients. The goal of this quality improvement project was to formally assess internal compliance with screening between 2009 and 2011.

Methods: Our screening protocol requires testing all new chemotherapy patients with hepatitis B surface antigen (HBsAg), hepatitis B core antibody (HBc), and hepatitis B surface antibody (HBsAb). HBsAg positive patients are treated with antivirals. HBc positive patients are monitored with serial hepatic function tests. We evaluated if screening tests had been performed in each patient seen between 2009 and 2011, and determined the percentage of effectively screened patients. A positive screening result includes only HBsAg positive patients and patients who are HBc positive/HBsAb negative since these individuals have the highest reactivation rate. A positive serology result includes all of the above tests. We monitored if the patients were treated or followed with serial laboratory evaluation if indicated. We also characterized our patient population by ethnicity.

Results: 329 patients received chemotherapy (94, 109, and 126). Among HBsAg positive patients (5, 1.5%), all were referred to Infectious Disease for treatment. The HBc positive patients (55) were followed with serial hepatic function tests for the duration of chemotherapy. 13 of these were HBsAb negative (4% of all patients). A total of 5.5% of all patients had a

positive screening result as defined above. Overall compliance was 98%, six patients were not screened. Of individuals with a positive serology result, 85% self-identified as either Asian or Pacific Islander.

Discussion: Reactivation of chronic HBV in individuals exposed to immunosuppressive treatments has a mortality rate of 4-41%. The American Society of Clinical Oncology's stance is equivocal regarding screening all patients receiving chemotherapy, though they do endorse selective screening for patients at increased risk for HBV reactivation. Hawai'i has a higher prevalence of chronic hepatitis B (defined by positive HBsAg) compared to the mainland US population (3.6% vs 0.4% respectively). Our current screening is effective; however our management is limited by the lack of a clear duration of monitoring for HBc patients post chemotherapy. None of the HBsAg positive patients treated with antivirals developed evidence of reactivation. No deaths due to hepatitis B reactivation at Tripler Army Medical Center have been observed since surveillance began. Based on the high proportion of patients with a positive screening result that we encountered, we propose that screening at risk populations should continue to be standard practice.

Conflict of Interest

The authors report no conflict of interest.

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