



ABSTRACT

Background: Epstein Barr Virus (EBV) has been detected in 90% of the human population yet manifestation remains in genetically susceptible environment. EBV has been detected in Burkitts lymphoma , nasopharyngeal carcinoma as well as other B-cell lymphoproliferative disorders. EBV enters B cells as well as epithelial cells by interaction of the major viral glycoprotein gp350/220 with the complement receptor (CR2/CD21). Breast cancer being an epithelial tumor has been considered as a site for EBV infection. Latent infections of EBV expresses a number of specific proteins, e.g. EBNA 1, EBNA 2, EBNA 3A, EBNA 3B, EBNA 3C ,LMP 1 AND LMP 2. The Epstein Barr nuclear antigen 1 (EBNA1) protein of Epstein Barr virus is important for the replication, segregation, and transcriptional activation of latent Epstein-Barr virus genomes. It has been implicated in host cell immortalization, avoids proteasomal processing and cell-surface presentation.

Objective: The aim of this study is to investigate the presence of EBV within breast tumors based on the presence of EBNA1 and to see if there is a correlation between presence of EBV ,EBNA1 and breast cancer stage.

Method: The samples of this study were obtained in the form of paraffin-embedded tissues which were proven as breast cancer from histologic examination. The samples were collected from the duration of March 2005 until May 2005, which are provided by Pathologic Anatomy Department of Dr. Sardjito General Hospital, Yogyakarta. Immunohistochemistry staining was done to detect EBNA1.

Results: The results of test showed that EBNA1 is present in 10 of 12 (83%) samples examined. One sample was ungradeable because of the large area of necrosis. With 2 samples graded as negative (17%) and 1 sample certified as ungradeable. Six samples (50 %) graded +2 and four samples (33.3%) +1.

Conclusion: EBNA1 was detected in the majority of the samples. EBNA1 being present in the paraffin embedded samples implicated the presence of EBV within the breast tissue examined. There was no association between presence EBV, EBNA 1 and breast cancer stage.

Keywords: EBV , EBNA 1, breast cancer tissue , immunohistochemistry