

ABSTRACT

Background: Epstein-Barr virus (EBV) is a major viral cofactor in certain tumors of lymphoid and epithelial tissues. During latent infection, EBV expresses several proteins, including EBNA-2. EBNA-2 is important in the establishment of EBV latency type III and for EBV-induced immortalization of the B lymphocytes. Breast cancer as the most frequently diagnosed malignancy of women in many populations, is one of the epithelial malignancies. Nowadays, many researchers have questioned about the role of EBV in the development of breast cancer. EBNA-2 was become the major concern in this study to demonstrate the presence of EBV in breast cancer.

Objectives: The purpose of this study is to identify the presence of EBNA-2 in breast cancer tissues.

Method: This study was conducted in Faculty of Medicine Gadjah Mada University. This study used paraffin-embedded tissues from 12 primary invasive breast cancers. Paraffin-embedded tissues from nasopharyngeal carcinoma were used as the controls. Immunohistochemistry study using monoclonal antibodies directed against the EBNA-2 was applied to these samples.

Results: Two out of 12 samples (16.67%) showed expression of EBNA-2 which indicate positive result. EBNA-2 expression was only found in the tumor cells. The expression of EBNA-2 suggested the presence of EBV in the breast cancer tissues and it might be possible that these tissues undergo EBV infection latency type III.

Conclusion: Positive results suggested the presence of EBV in breast cancer tissues and the possibility of these tissues showed latency type III.

Key Word: EBV; EBNA-2; breast cancer; Immunohistochemistry