

Relative Expression of mRNA BARP1 Epstein-Barr Virus from Tumor Tissue Biopsy in Formalin-Fixed Paraffin-Embedded in Nasopharyngeal Carcinoma

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Abstract	<p>Nasopharyngeal carcinoma (NPC) is a malignant tumor originating from nasopharyngeal epithelial cells. NPC is endemic in some regions, especially in Southeast Asia countries. NPC is also a multifactorial disease involving environmental factors, genetic factors, and infection from Epstein-Barr virus (EBV). According to WHO classification, Undifferentiated NPC is histopathologically associated with EBV infection and categorized into WHO subtype 3. EBV has two phases in its infection cycle: the lytic and latent phases. The BARP1 gene is a mediator of the transition from the latent phase to the lytic phase. Previous studies suggest measurement of EBV mRNA activity at the primary tumor site in the nasopharyngeal reflects the pathogenesis of NPC rather than measuring circulating EBV DNA or serological diagnosis. This study aimed to determine the relative expression potential of BARP1 mRNA at different tumor stages in NPC patients as a predictor of NPC pathogenesis. This research design was a descriptive research method in the form of a cross-sectional study. The samples used were 22 patients diagnosed as NPC WHO class III at the Anatomical Pathology Section of Prof. Dr. Margono Soekarjo, Purwokerto, who met the inclusion criteria. The relative expression of BARP1 mRNA was carried out using the one-step real-time RT-PCR technique and then calculated using a formula of $2^{-\Delta\Delta Ct}$. The T-test was used to compare the relative expression of early and late-stage BARP1 mRNA. The relative expression of BARP1 mRNA in the late-stage advanced stage (n = 6; 0.708292-0.840177; med = 0.7164655) was increased compared to the early stage (n = 2; 0.708841-0.712423; med = 0.710632).</p>
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