

ABSTRACT

Background: *Nasopharyngeal carcinoma (NPC) is a squamous cell malignancy originating from the epithelial cells of nasopharynx. It is endemic in China and Southeast Asia. In Indonesia, it is the fourth most prevalent cancer, with 6.2 cases per 100,000 people and representing 28% of head and neck malignancy. This cancer is correlated to Epstein-Barr Virus (EBV) which has an LMP1 oncogene that upregulates hypoxia-inducible factor (HIF-1 α) in hypoxic condition of tumor microenvironment. The HIF-1 α secrete pro-angiogenic factors such as stromal-derived factor (SDF-1) that plays a role in creating new vasculatures, creating a conducive microenvironment to grow and metastasize to a lymph node via lymphatic and hematogenous routes. Thus, with the interplay within the TME, the SDF-1 expression in nasopharyngeal carcinoma size and lymph node metastasis is in line.*

Objectives: *The aim of this study is to evaluate the proportion of SDF-1 expression on nasopharyngeal carcinoma with different tumor size and lymph node metastasis.*

Materials and Methods: *Forty Formalin Fixed Paraffin-Embedded (FFPE) tissue of pre-treatment NPC patients from Dr. Sardjito General Hospital were used. The expression of SDF-1 on the tumor samples were detected by immunohistochemistry (IHC) staining using antibody anti-SDF-1. Data of the tumor size and lymph node metastasis were collected from medical records from Dr. Sardjito General Hospital. Chi-square test was performed to examine the proportion of SDF-1 expression based on tumor size (T) and lymph node metastasis (N) of NPC tissue.*

Result: *There was no difference between the SDF-1 expression in different tumor size, and there was a difference between SDF-1 expression in different lymph node metastasis of nasopharyngeal carcinoma.*

Keywords: *Nasopharyngeal carcinoma (NPC), SDF-1, tumor size, lymph node metastasis.*