

Immunohistochemical study of p16INK4A and survivin expressions in cervical squamous neoplasm.

Abstract

Introduction: Cervical cancer is the second most common cancer affecting Malaysian women. Despite the implementation of pap smear screening, many women are still diagnosed only in the advanced stage of cervical cancer. This could partly be due to failure of detection of its precursor lesions; hence the need to search for novel biomarkers to assist in the screening and diagnosis of cervical neoplasia. This study aims to determine the expression of p16 INK4A and survivin as possible predictive biomarkers in cervical squamous neoplasm. **Material and Methods:** This is a retrospective study on 201 cases of cervical neoplasm comprising of 129 cervical intraepithelial neoplasia (CIN) and 72 squamous cell carcinoma (SCC). All samples were evaluated by two independent observers using p16INK4A and survivin monoclonal antibodies. The p16INK4A expression was graded as negative, focal and diffuse positivity. The intensity for survivin expression was graded as weak, moderate and intense. **Results:** It is seen that p16INK4A expression in CIN 1, CIN 2 and CIN 3 were 25.4%, 42.9% and 95.9% respectively. Majority of SCC (98.6%) showed p16INK4A expression. Survivin expressions in CIN 1, CIN 2, CIN 3 and SCC were 56.7%, 33.4%, 87.5% and 98.6%. There was a linear relationship between increasing grade of CIN and p16INK4A expressions. **Conclusion:** Our study showed that p16INK4A expressions correlate well with the increasing grade of CIN. Although survivin does not correlate well to the increasing grade of CIN, it could be useful in differentiating CIN 3 from SCC.

Keyword: Cervical cancer; Cervix; Immunohistochemistry; P16; Survivin.