DOI: https://doi.org/10.4038/jdp.v19i2.7919 *Journal of Diagnostic Pathology 2024;19(2):17.*
Abstracts of Research Papers
ICON 2024, Breast, Thyroid and Lymphoma Pathology

Research paper 4

Overexpression of p16 protein in a cohort of Sri Lankan patients with cervical cancer

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Introduction and objectives: p16 protein is recognised as a surrogate marker of human papillomavirus (HPV) infection (sensitivity = 90%). According to worldwide data, HPV infection has > 90% involvement in the pathogenesis of cervical carcinoma. The aetiology of non-HPV-associated squamous cell carcinoma in Sri Lanka is yet to be investigated. Positive staining of p16 or overexpression ("block" staining - strong nuclear and cytoplasmic expression in a continuous segment in squamous epithelium, involving basal and parabasal layers) correlates with oncogenic HPV infection. Cytoplasmic-only staining, diffuse blush/weak intensity staining, and other focal/patchy patterns of staining are considered negative. The aim of the study was to evaluate the presence of p16 positivity in a cohort of cervical squamous cell carcinoma and determine how it differs from the worldwide data.

Methodology: Data were extracted from archives retrospectively for three years from 01.01.2021 to 31.12.2023. Sections from formalin fixed paraffin embedded blocks, of cases of squamous cell carcinoma of cervix were immunohistochemically assessed for p16 expression. Cases with negative p16 controls and controls with positivity other than block positivity were excluded.

Results: Forty-eight (48) patients with cervical carcinoma were analysed. The age ranged from 50 years to 80 years (mean age 63 years). Thirty five of 48 specimens showed block positivity for p16 (72%).

Conclusions: 72% of cervical carcinomas studied showed p16 overexpression. This is relatively a low percentage when compared with worldwide data. Thus, there is a significant proportion of cervical carcinoma for which the exact aetiology is unknown. A future study with a larger sample size and patients from different provinces is needed to get a better understanding regarding the overexpression of p16 in cervical carcinoma in the Sri Lankan population.

Keywords: cervical carcinoma, p16, Sri Lanka

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