

**UNIVERSITI TEKNOLOGI MARA**

**PATTERN OF P16  
IMMUNOHISTOCHEMICAL  
STAINING IN CERVICAL TISSUES**

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Thesis submitted in partial fulfillment of the  
requirements for the degree of  
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## **AUTHOR'S DECLARATION**

I declare that the work in this thesis was carried out in accordance with regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institutions or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Cervical cancer has been one the most common cancers affecting women worldwide. It represents a significant burden on the health care system as well as affecting the lives of patients and carers. The most frequent types of cervical cancers are adenocarcinoma and squamous cell carcinomas and while their precursors are known, the main challenge is in identifying and accurately diagnosing these precursor lesions. A well-established pitfall is the inconsistency and discrepancies that exist in diagnosing these precursor lesions. The use of p16 may help to reduce the inter and intra-observer discrepancies among pathologists. This immunohistochemistry, p16 serves as a surrogate marker and its overexpression is detected when cells are infected by high risk Human Papillomaviruses (HR-HPV). This research aims to compare p16 expressions between normal cervical tissues, inflamed cervical lesions, metaplastic cervical lesions, low and high grade cervical intraepithelial neoplasia and malignant epithelium and analyze the significant difference between them. The cases are taken from records of Anatomic Pathology Unit, Faculty of Medicine, Universiti Teknologi MARA which provides diagnostic services for patients from Hospital Sungai Buloh and Clinical Training Centre, Faculty of Medicine, Universiti Teknologi MARA. A total of 20 samples from each category; normal cervix (n=20), cervicitis (n=20), cervical metaplasia (n=20), low grade CIN (n=20), high grade CIN (n=20) and invasive cervical carcinoma (n=20) were studied. The immunohistochemical staining with p16 were done on all the cases and interpreted using the Allred scoring system and block staining method. The results showed a significant difference in the uptake of the p16 staining pattern between cervical cancer, high grade cervical intraepithelial neoplasia and low grade cervical intraepithelial neoplasia. A chi square test was used to analyze the result and the obtained p value was  $< 0.05$ . In conclusion, due to the different expressions of p16 in different types of lesions in the uterine cervix, p16 is a helpful marker in the diagnosis of cervical pathology

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