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THE ONCOGENIC EFFECT OF EBV/HPV CO-INFECTION IN A GROUP OF IRAQI WOMEN WITH CERVICAL CARCINOMA

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ABSTRACT : The current paper was designed to find the possible synergic effect of EBV infection with the HPV-16 in Iraqi women suffering from cervical carcinoma. This retrospective study involved paraffinized blocks of two groups. The research included 30 carcinomatous cervical tissues and 15 samples from normal cervical biopsies. After sectioning using positively charged slides, immunohistochemistry (IHC) was performed to detect anti-Epstein Barr Virus LMP1 and Human papillomavirus type 16 primary antibodies. Sixty-three percentage (19 out of 30) of the studies group showed positive overexpression as shown in with a significant association of the expression with cervical cancer with a significant association (p = 0). The co-infection of the EBV and HPV-16 supports the hypothesis regarding the possible role of the EBV infection to increase the burden of the cervical squamous carcinogenesis.

Key words : Health, biochemical changes, critical carcinoma.

INTRODUCTION

Among different cancers, cervical cancer represents the leading cause of mortality among women globally, and the burden of disease occurs in the developing countries with a percentage reach to 85% of the global deaths (Elmi *et al*, 2017).

The hallmark ZurHausen discovery of the connection between high-risk types of human papillomavirus (especially HPV16) infections and the involvement of the viral oncogenes in the development of cervical malignancy is well established as a definite etiology, which represents the causal of five percent of all human cancers and 70–80% of cervical cancer (Khashman *et al*, 2019). In patients with H-SIL biopsy revealed genotypes 16 and/or 18. The CH2 technique is useful as a screening procedure, while PCR is interesting to identify HPV-HR genotypes (Hachim *et al*, 2020).

After the infection with HPVs, it takes several years to develop cervical cancer which increases the suggestion of the involvement different etiological factors that add synergic effects during the carcinogenesis of cervical cancer (Khenchouche *et al*, 2013; Nichols *et al*, 2011; Ekalaksananan *et al*, 2011) and in this context, the synergism between HPVs and Epstein-Barr virus EBV considered on of the most intriguing research issues (Vranic *et al*, 2018).

EBVis a member of eight known human viruses that belong to theherpesviridae,the viral oncogenicity was first discovered in 1964 through identifying the virus as the causal of Burkitt lymphoma (Mui *et al*, 2017).

The main oncogenic protein of the EBV is the late membrane protein-1 (LMP-1) and besides its ability to transform resting primary B cells, it is also able to transforme epithelial cells and fibroblasts (Kieser and Sterz, 2015).

For all the above, we try in this paper to study the possible effect of viral coinection in the development of cervical carcinoma.

MATERIALS AND METHODS

Two groups were used in this study, the apparently healthy group of fifteen archival blocks and the study group of thirty archival tissues of cervical cancer. All these samples were collected from different governmental and private laboratories in Baghdad.

For each block, two slides with 4 µm thickness were used, for routine hematoxylin and eosin staining and the otheron a positively-charged slide for the immunohistochemical procedure using Abcamanti-EBV LMP1, anti-HPV16 and the Mouse and Rabbit Specific HRP/DAB detection kit.

After dewaxing and rehydration, peroxide blockand