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Concentration levels of IL-10 and TNF- α cytokines in patients with HPV DNA positive and negative cervical lesionsHusham Y M Ali Bayazed¹, Katan Sabir Ali² and Jaladet M S Jubrael³¹University of Zakho, Iraq²Hawler Medical University, Iraq³Duhok university, Iraq

Objective: The present study was performed to assess the immune response in women with HPV DNA positive and negative cervical lesions.

Methods & Patients: 80 women with cervical lesions (age range of 25-70 years) were studied. The lesions were cytologically classified into 4 groups: ASC-US (20), CINI (30), CINII-III (16) and cervical carcinoma (14) prior to HPV DNA detection. Estimation of IL-10 and TNF- α cytokines was performed via Enzyme linked immunosorbent assay (ELISA) technique in cervical secretions and serum and PCR screening kits were utilized to detect HPV DNA on cervical smears.

Results: The detected levels of IL-10 (mean \pm SE) concentration in cervical secretions of patients with HPV DNA positive and negative states and control group were 88.73 \pm 16.90 pg/ml, 24.00 \pm 2.84 pg/ml and 8.27 \pm 0.59 pg/ml respectively with significant differences ($p < 0.05$), while levels of TNF- α in cervical secretion of the studied groups were 12.18 \pm 3.49 pg/ml, 9.90 \pm 0.73 pg/ml and 7.90 \pm 0.87 pg/ml respectively with non-significant differences. The detected levels of IL-10 in cervical secretions of HPV DNA positive cases (88.73 \pm 16.90 pg/ml) were significantly higher than in the sera (13.69 \pm 2.41 pg/ml) ($p < 0.05$), while the levels of TNF- α in their cervical secretions (12.18 \pm 3.49 pg/ml) was slightly raised than in their sera (11.59 \pm 3.14 pg/ml) with non-significance differences.

Conclusions: A raised levels of both IL-10 and TNF- α in secretions of HPV DNA positive women with different cervical lesions were detected. However, the observed higher levels of IL-10 than TNF- α indicate down-modulation of tumor-specific immune response to HPV infected lesions via significant raised concentrations of the first cytokine than the second one. Therefore, this phenomenon seems to provide a tumor progressive microenvironment by the immunosuppressant properties of IL-10 with minimal antitumor activity of TNF- α .

alsinde@yahoo.com