SEXUALLY TRANSMITTED INFECTIONS, HIV/AIDS

GREEN TEA POLYPHENOLS INHIBITS CELL GROWTH AND INDUCES APOPTOSIS ON HPV 16 SUBGENES IMMORTALIZED HUMAN CERVICAL EPITHELIAL CELLS

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Backgound: Human Pappiloma Virus (HPV) infection has caused extensive concern because of its carcinogenetic potential. Green tea polyphenols (TP) was approved to be applied in the treatment of HPV infection, such as genital warts and squamous cell carcinoma. Whether TP can be used in the precancerous stage and prevent the malignant transformation needs further investigation.

Objective: To explore the effect of TP on HPV 16 Subgenes Immortalized Human Cervical Epithelial Cells (H8 cells).

Materials and Methods: After 24, 36, and 48 hours of incubating H8 cells with different concentrations of tea polyphenols, cell proliferation was detected by CCK-8 assay. After 24 hours of incubation, H8 cells were investigated for apoptosis and cell cycle by flow cytometry.

Results: TP inhibited H8 cells proliferation in a concentration-dependent manner, while the concentration of 12.5ug/ml of TP can inhibits H8 cells proliferation in a time-dependent manner. After incubated with different concentrations of TP for 24, 36 and 48 hours, the apoptosis rate of H8 cells was increased. Compared with the control group, the proportion of cells in G1 phase (55.960±0.72%, 54.120±3.201%, 65.300±1.51%) was increased after treatment with TP at a concentration of 6.25, 12.5, 25ug/ml, G2 phase(3.170±1.821%, 4.940±1.46%, 4.653±4.263%) was decreased after treatment with TP.

Conclusions: The cell proliferation was inhibited, the apoptosis and the cell cycle arrest were induced by TP on H8 cells.