



Cervical Cancer: Evaluation and Management

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Introduction

Cervical cancer is the third most common type of cancer in women around the world. Because today's cancer treatments are still ineffective, individuals are looking for other options. Erythrina fusca lour has long been utilized as an anticancer herb. The purpose of this experiment is to see how well chloroform extracts of erythrina fusca lour. Leaves and its isolates work on hela cervical cancer cells. Direct counting was used for the cytotoxicity and doubling time assays, whereas acrydi orange was used for the DNA staining assay. Chloroform extracts and isolates both had cytotoxic action, with IC50 values of 16 g/ml and 5 g/ml, respectively, whereas isolate and isolate did not. At the concentration tested, the effluent had no effect on hela cell proliferation, but it did induce DNA fragmentation, indicating apoptosis induction. The molecular processes underlying these effects are currently being investigated.

Cervical Cancer

The most frequent malignancy among women is breast cancer. Breast cancer affects one out of every eight Western women. Although the incidence of breast cancer in Iran is 5-10 years sooner than in Western nations (one in every 10 women-12 women), the prevalence of breast cancer in Iran is lower than in Western countries (one in every 10 women-12 women). After lung cancer, breast cancer is the second largest cause of cancer death among women. As a result, discovering novel therapeutic strategies may be able to assist reduce breast cancer mortality and improve survival rates. By triggering apoptosis and limiting metastasis, Wharton jelly stem cells with mesenchyme morphology play a crucial role in suppressing the progression of ovarian, osteosarcoma, and breast cancer. Breast cancer is caused by a combination of environmental and hereditary factors. The CXCR4 and VLA-4 genes are key breast cancer genetic factors that play a role in cell survival, migration, proliferation, and metastasis in a variety of cancers, including breast cancer. As a result, Wharton's Jelly Stem Cells' suppression of these two genes could be a novel and effective therapeutic target in breast cancer. The purpose of this study was to see how the release of Wharton jelly stem cells affected the expression of the CXCR4 and VLA-4 genes in cancer cells.

Following the culture of breast cancer cells, these cells were exposed to Wharton's Jelly Stem Cells. From the treated cells, RNA was extracted. Real-time PCR was used to assess the expression of the CXCR4 and VLA-4 genes. The MTT and Scratching tests revealed a substantial difference as compared to the control group. In addition, when compared to the control group, Real-time PCR data revealed a substantial decrease in the expression of CXCR4 and VLA-4 genes. Conclusion: Different doses of Wharton Jelly Stem Cells reduced cancer cell growth and expression of CXCR-4 and VLA-4 homing genes in a breast cancer cell line, according to the findings of this study. As a result, Wharton Jelly Stem Cells may be regarded an effective treatment for breast cancer.

Free radicals cause a variety of disorders, including cancer and cardiovascular disease, by causing lipid peroxidation, protein peroxidation, DNA damage, and cellular degeneration in cells. Piper betle L., sometimes known as betel, is a member of the Piperaceae family. It is believed to have originated in South and Southeast Asia, where it has long been utilized as a traditional medicine due to its medicinal characteristics. The free radical scavenging activity of ethanolic leaves extract of Piper betle L., as well as its various solvent fractions (hexane, ethyl acetate, butanol, and water), was assessed using the DPPH free radical scavenging assay in this work. In comparison to the other fractions, the ethanolic extract and the ethyl acetate fraction had showed highly strong 1, 1-Diphenyl-2-Picryl-Hydrazyl (DPPH) radical scavenging activity. The IC50 values of the ethanolic extract and the ethyl acetate fraction in the DPPH free radical scavenging experiment were 17.43 g/mL and 11.53 g/mL, respectively.

The overall phenolic content was thought to be responsible for the free radical scavenging activity. The ethanol extract (277.68 g EGCG/mg) and the ethyl acetate fraction (559.38 g EGCG/mg) had the highest total phenolic content. According to the findings, the ethanol leaves extract of Piper betle L., as well as its ethyl acetate fraction, exhibit significant free radical scavenging activity. Nitrogen's are glycoproteins with three globular-like (G) domains (G1-G3) separated by a link-like and rod-like segment that are ubiquitous in the basement membrane. The isoforms of nitrogen are nidogen-1/entactin-1 and nidogen-2/entactin-2. The rod segments and G3 domains of these isoforms differ structurally. Only nidogen-1 binds to type IV collagen and pelican through its G2 domain, while both nitrogen isoforms interact with the lamina 1 short arm chain through their G3 domains.

Cancer cells are known to be constantly exposed to environmental challenges such as hypoxia, the toxicity of chemotherapy, and radiation therapy, and their responses to these stresses are an important element of their biological function. The creation of SGs is one type of stress-resistance mechanism used by cancer cells. Only one publication has reported the occurrence of SGs in human cancer tissues, perhaps due to SGs' invisibility under standard optical microscopy and their inclination to deconstruct when stress is removed. The creation and disassembly of SGs can be influenced by a variety of anti-cancer drugs.

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