

Evaluation the Effect of Low Level Laser on Nanoparticles Containing Chemotherapy Drug Procedure in Prostate Cancer Cells in Vitro

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Abstract

Prostate cancer is the second most common cancer after lung cancer in men. Chemotherapy is one of the common methods of treating prostate cancer that results in the destruction of cancer cells. The side effects of chemotherapy include head and eyelash loss, white blood cell counts, weak immune defenses, infections, pain, dry mouth and osteoporosis. The presence of toxic effects of chemotherapy drugs is one of the problems of treatment because these drugs often act nonspecifically. Over the past two decades, new drug delivery systems have been developed that have somewhat been able to Liposomes can be used as a biocompatible drug delivery system for carrying out chemotherapy drugs.

Target: In order to increase the effectiveness of the drug on site, reduce the dose of supplementary drugs, reduce the side effects of chemotherapy and accelerate the recovery time on the one hand, and on the other hand, reduce the economic and social costs of treatment and reduce the physical and psychological complications.

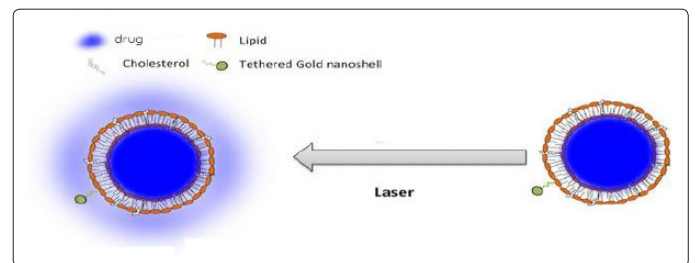
Method

The specified number of prostate cancer cells (LNCap-FGC-10) is divided into three groups of culture, and each group is divided into several subgroups for specific laser wavelengths and appropriate energy

1. Control Group
2. Treatment Group
3. Cancer Cell Group

After cell culture, RNA extraction was performed on specified days and CDNA was made. Then, the rate of expression of specific genes to study the progression of cancer and the effect of the drug were studied and also with apoptosis tests after the effect of the drug MTT and alkaline phosphatase tests are also required to study cell proliferation and activity levels [1-13].

Flow cytometry is performed to determine the phenotype and cellular properties. All stages are repeated and the accuracy of the results is calculated using SPSS software, also comparing the difference of expression of genes with T-Test. The results of this study, if observed, can be a safe, low-risk, low-cost, and easy method for the treatment of prostate cancer.



Image

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