Advances in Cancer Prevention

Heidari, Adv Cancer Prev 2016, 1:2
DOI: 10.4172/2472-0429.1000e102

Editorial Open access

A Bio-Spectroscopic Study of DNA Density and Color Role as Determining Factor for Absorbed Irradiation in Cancer Cells

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Rec Date: April 04, 2016; **Acc Date:** April 05, 2016; **Pub Date:** April 14, 2016

Editorial

Nowadays, the use of lasers and other biospectroscopic techniques such as Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy (ATR-FTIR), Mass, UV-Vis, FT-Raman, ^{1}HNMR, ^{13}CNMR and ^{31}PNMR spectroscopies have had significant progress in treatment of cancer diseases [1-17]. Process of irradiation transmission and absorption in human cells' tissues is very important in diagnosis and treatment of many cells related diseases and specially cancer cells with optical devices like lasers and other biospectroscopic techniques such as Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy (ATR-FTIR), Mass, UV-Vis, FT-Raman, ^{1}HNMR, ^{13}CNMR and ^{31}PNMR spectroscopies [18-34]. Because of diversity of race and cells' color of humans, who are being treated, knowledge about the effect of the human cells' color on the laser treatment is essential [35-54]. According to the researches in the field of measurement optical and biospectroscopic properties of the cancer cells and efforts made for the optimization with different methods to evaluate DNA of cancer cells and changes in different individuals, were used to investigate the rate of irradiation absorption in the cancer cells with different DNA colors and densities (Figure 1).

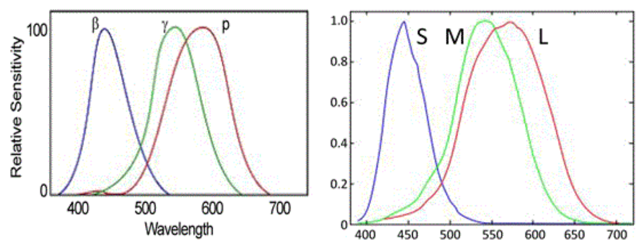

Figure 1: Rate of irradiation absorption in the human: health cells (left illustration) and cancer cells (right illustration).

Our studies and investigations showed that the color and density of DNA in the cancer cells act as determining factor in the absorbed irradiation in the cancer cells and causes to increase in the scattering of irradiation that leads to reduction in the laser beam transmission from cancer cells' tissues. The results of this editorial showed that with regard to patient's racial diversity and consequently differences in the color and density of DNA in the cancer cells, cell color plays an important role in choosing the appropriate laser for optimization of different treatment methods.

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