

Magnetic Field helps in cancer treatment

Yousef Hasan and Lara ALsaket

The Jubilee School

Cancer is one of the most dangerous diseases in our current time, because of its high rates of deaths every year, that according to the national cancer institute USA, the number of cancer deaths (cancer mortality) is 171.2 per 100,000 men and women per year (based on 2008-2012 deaths). Therefore this study aimed to further understand the effect of high-gradient neodymium static magnetic field HNSM on cancer cells, in order to find a way that may help in the treating process of cancer. The study's methodology was to test the effect of HNSM with different strengths on melanoma cancer cells, using A375 cell lines, for 72 hours under sterilized conditions. And the results showed that the HNSM of a specific range of strengths inhibited the migration and division of the cells, and to explain the findings, the study took two ways, one is that the HNSM affected the paramagnetic ions, that have an effect on the growth and migration processes, in the cell, therefore we tested the calcium ions concentration, that are of a very direct relation with growth in the cells, and the results showed that the treated cells had taken a less amount of calcium ions compared to the control cell lines, another way that the research took is that the magnetic field had affected a genetic pathway that is responsible of growth, and testing that will be for future work. As conclusion the high-gradient neodymium static magnetic field of a specific strength has a very significant effect on cancer cells, which may be of a revolutionary use that helps in the treating process of cancer.