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Research Article

Application of Frequency Modulated RF Waves for Treating Cancers and Tumors

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Abstract

Reprogramming of cancer cells by a weak frequency modulated radio-frequency (RF) waves and treating by this method such a cancer as Prostate Adenocarcinoma were investigated. It was shown that, when human cancer cells were placed into a weak RF electromagnetic field in the far field of an antenna, one can observe the effect of reducing metabolism in such cells. This is caused by RF irradiation, and is in addition to reducing the cancer cells' proliferation, caused by the epigenetic reprogramming of such cells by the modulated RF field. The maximum effect of this can be observed at frequency 430 MHz. There are possible physical explanations for the influence of RF waves on the cancer cells' genes condition and on their activity. This effect has already been noted in a clinical trial for the treating of Prostate Adenocarcinoma Grade I with Lab Version of the experimental device, named "Magic Light".

Keywords: RF waves; Weak RF field; Cancer cell reprogramming; Cancer treatment; SCC Cancer; Neuroblastoma Cancer; Prostate Adenocarcinoma Cancer ambulatory treatment.

Introduction

Cancer is one of the leading causes of morbidity and mortality worldwide. Cancer is not uniform; there are many types, mutations, and diversity, even within the same tumor. Current cancer therapies include chemotherapy, surgery, immunotherapy or radiotherapy with known cell- toxic effects. In addition, some cancers develop tolerance towards these treatments.

Another cancer therapy approach commonly used as a treatment for many cancers, involves ionizing radiation.

The External-beam radiation therapy includes X-rays-producing photons with kilowatt energy; Gamma rays - representing photons with megawatt energy and high energy focused ultrasound (HIFU). In the Internal radiation therapy is also called brachytherapy; the radiation is from radioactive material placed into the tumor or surrounding tissue. This includes permanent implants or temporary internal radiation (from a few minutes to a few days). All these radiation-based therapy methods target tumors and damaging the cancer cells, but also affecting healthy tissues around the tumor.

Thus, considering the degree of effectiveness, development of resistance to the therapies and their side effects, other innovative treatments are urgently needed.

In order to avoid all the disadvantages of existing methods for treating cancers and tumors, I would like to offer a cancer treatment involving the process of reprogramming of cancer cells into normative cells instead of destroying them. The possibility for the reprogramming of cancerous cells by reducing the cells' metabolism into regular cells by chemical agents was described in [1,2].

The present work offered a method which is able to directly influence and reprogram the activity of single nucleotides inside genes at the time of the cell's proliferation. At the time of their proliferation, live cells are very sensitive to any outside influence. The main difference between cancer cells and regular tissue cells is their speed of proliferation. Cancer cells are immortal and proliferate without cease. Regular cells seldom proliferate and, in any case, have a limit on proliferation.

So, if the method for cancer treatment has influence only on dividing cells at the time of cells' proliferation, it is possible to avoid any damage to regular tissue cells.

Electromagnetic fields (EMF) are generally believed to have no relevant non-thermal effects on cells, tissues, and living organisms [1,2]. Recently, non-thermal effects have been clinically exploited with the tumor-treating field method [3,4], which applies an EMF at radio frequencies (RF) of 100-300 kHz with a moderate strength of 100-150 V/m. The scientific community considers the risk of such moderate-strength RF-EMF to be negligible, at least with respect to potential hazards caused by power lines or mobile phones. Effects of influencing on a live cell by a weak RF EM field were investigated in the article of Miyakoshi [5], and there was found, that a weak RF fields in the frequency range from 800 MHz to 3 GHz (cellular phone frequencies) have not any effect to cellular functions, including apoptosis, the immune system, and ROS production5, RF energy also does not cleave intracellular DNA directly [5]. Possibility to use small interfering RNA (siRNA), for changing the cell metabolism, and possibility for reprogramming of malignant cancer cells into terminally differentiated cells were investigated and described in works [7,8]. Also, was shown the possibility to reprogram hepatocellular carcinoma cells into quiescent cells with spindle morphology by using of AM modulated RF field at frequency 27.12 MHz [9].

The present work investigated the effect of non-contact influence of the frequency modulated RF field on the regulation of cell metabolism of living cells and also described the possibility of reprogramming cancer cells into terminally differentiated cells by the non-contact influence of the frequency modulated weak (< 15 mW/cm^2) RF field, theoretical analysis of a physical mechanism for interaction between RF waves and single nucleotides inside the genes and the first clinical trial of described method for Prostate Adenocarcinoma Grade I treatment.

The effect of reduction of cells' metabolism in a weak frequency modulated RF field in live plant cells

Included in the present work was the investigated of the influence of a weak (1.5-15 mW/cm^2), frequency modulated EM RF waves, in the range 27 MHz-510 MHz, on plant cells metabolism. In all experiments was shown that a weak EM RF field with low RF power density did not cause any heating effects, but can reduce the cell temperature, which depends on the cell metabolism.

Methodic of experiment:

For this experiment, there was developed a Lab Version of the device, named "Magic Light", consisted of a RF high frequency generator, low frequency generator, antenna and metal reflector. All frequency modulated RF waves were directed by an antenna with reflector to the target (either plant cells or human cancer cells) from distance of 1 m. The size of reflector was 60 cm x 60 cm. The power density on the target was in the range 1.5 mW/cm^2 - 12 mW/cm^2. For frequency modulation, a signal generator module Drok, model XY-PWM1 was used. Frequency modulation was performed with Duty Cycle 50% and Depth of Modulation was 50%. Before starting the irradiation, the temperature of plant cells (on the surface of their leaves) were measured by the infrared thermometer (Oritronic, model DM3995), 4-5 times for 20 seconds duration. For improved accuracy, the results of the measurements were averaged. Temperature measurements were repeated 30 times, each exposition time was of 1 minute duration.

Since the cell metabolism produce energy, any changes in the cell metabolism can be detected and evaluated by temperature measurement of the cell surface.

As it is shown on Figure 1 and Figure 2 below, the leaves' temperatures decrease at frequency 430 MHz and modulation frequency 1 kHz, but the same effect can be observed at frequencies in range from 28 MHz to 510 MHz. The effect of temperature decrease in plant cells surface can be observed during the time of irradiation by RF waves. After ceasing the irradiation process, the leaves' temperatures after some time, return to their previous normal temperatures.

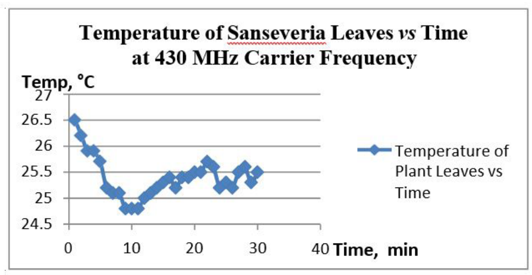

Figure 1: Temperature of Sanseveria Leaves *vs* Time at 430 MHz Carrier Frequency.

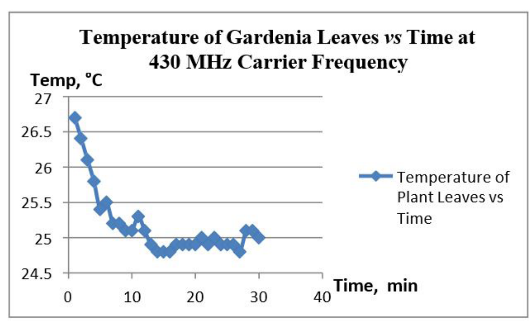

Figure 2: Temperature of Garden Leaves *vs* Time at 430 MHz Carrier Frequency.

It can be concluded from all these experiments that during the first 10 minutes of RF irradiation, the temperatures of the live targeted cells were reduced, and remained the same during the next 30 minutes of RF irradiation. Maximum temperature drops at optimal parameters values (RF power density were 3 mW/cm^2, modulation frequency 1000 Hz and carrier frequency 430 MHz) was reached about 1.5°C as for plant leaves. It should be assumed

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that the cells' temperature reduction corresponds to the reduction of the cells' metabolism. One can observe the restoration of previous values, temperature and corresponding metabolism after ceasing the irradiation by RF waves.

The influence of the RF power density on this effect has been tested. Results are presented in the Figure 3. It can be seen that the value of the temperature drop depends on the power density.

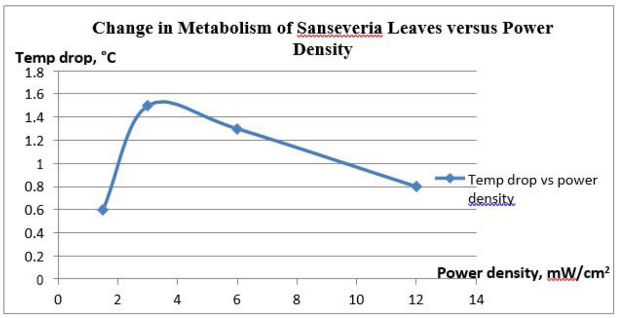

Figure 3: Change in Metabolism of Sanseveria Leaves Versus Power Density.

The effect of reduction of cancer cells' metabolism in a weak frequency modulated RF field in live human cancer cells (*in vitro*)

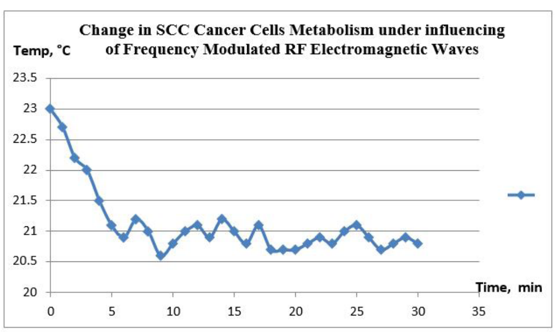

Figure 4: Change in SCC Cancer Cells Metabolism under influencing of Frequency Modulated RF Electromagnetic Waves.

As it can be seen from the Figure 4 above, for live cancer cells during irradiation by RF the temperature drop can reach value 2.5°C.

The effect of reduction of cells' metabolism in a weak frequency modulated RF field in human body (*in vivo*)

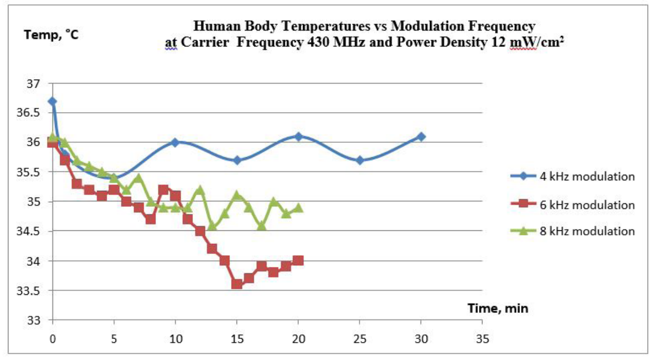

Figure 5: Human Body Temperatures *vs* Modulation Frequency at Carrier Frequency 430 MHz and Power Density 12 mW/cm^2.

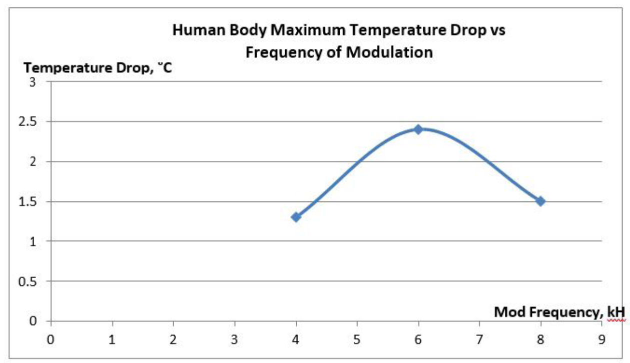

Figure 6: Human Body Maximum Temperature Drop *vs* Frequency of Modulation.

As can be seen from Figures 5 and 6 above, the reduction in the cells' temperatures and, correspondingly in the cells metabolism, depends on the frequency of modulation. Here it should be noted that a decrease in the cell temperature under the action of electromagnetic waves is a necessary but insufficient factor for effective reprogramming of cancer cells.

For example, the maximum drop in temperature was observed at a modulation frequency of 6 kHz (See Figure 6 above) but reprogramming of prostate adenocarcinoma cancer cells does not occur at this frequency (See Figure 12 below). And at a frequency of 4 kHz, the reprogramming effect may be observed, although at this frequency the temperature drop is smaller. The influence on the efficiency of reprogramming the modulation frequency will be discussed in more detail below.

The theoretical explanation of observed RF waves influence to the cells metabolism

The wave equation for the electric component of the electromagnetic field is:

$\Delta \mathbf{E} = -1/c^2 * \partial^2 \mathbf{E}/\partial t^2$,

Where **E** is the intensity of the electric field, **c** is the light velocity and **t** is time.

The solution of this equation describes electromagnetic waves.

Because the light velocity is a constant, we can discuss only left and right sides of this equation. The second derivative in time of the electrical field from the right side describes acceleration of the electrical field E. The left side of this equation describes divergence of the electrical field E in the space. It is corresponds to the static electrical field of the discharge like electron. So, from this equation anyone can see that any acceleration of the electric field in space causes the appearance of an electric field with open lines of force.

According to the modern quantum electrodynamics, each electromagnetic wave consists from a lot of photons, and each photon has energy:

$\mathbf{W = hc/\lambda}$

Where **h** is a Plank constant and **λ** is a wavelength.

And each photon has moment of impulse**:**

$\mathbf{I = h/\lambda}$ **(1)**

In addition to ordinary photons, quantum electrodynamics uses the theory of virtual photons to describe real objects and processes [10-12]. For example, an electric field, surrounding any charges (e.g. an electron) is a cloud of virtual photons. Each virtual photon has its own wavelength λ1, and the force interaction between charges according to the Coulomb's law is explained as the exchange by virtual photons, which do not transfer energy, but transfer moment of impulse **I = h/λ1**. Virtual photon can exist only for a very limited time **τ,** equal to:

$\mathbf{\tau = \lambda_1/c}$ **(2)**

According to the wave equation, each electromagnetic wave with wavelength λ during its propagation can induce in the space a lot of virtual photons with a much shorter wavelength λ1. This wavelength can be found by examining the operation of a conventional transformer from the point of view of quantum electrodynamics. So, when a transformer operating at frequency ν equal to 50 Hz, the corresponding wavelength λ of ordinary photons is:

$$\mathbf{\lambda = c/\nu = 3*10^8/50 = 0.6*10^7\ m}$$

But the distance between two adjacent transformer windings does not exceed 3 mm. Hence, we can obtain the ratio k between the wavelengths of ordinary and virtual photons:

$\mathbf{\lambda = k*\lambda_1}$ **(3)**

Where dimensionless coefficient **k** :

$\mathbf{k = \lambda/\lambda_1 = 0.6*10^7/3*10^{-3} = 2*10^9}$ **(4)**

From this ratio we see that if the frequency of the electromagnetic wave is 500 MHz, thensuch a wave will generate virtual photons with a wavelength λ_1 equal to:

$\mathbf{\lambda_1 = c/\nu*k = 3*10^8/5*10^8*2*10^9 = 0.3*10^{-9}\ m = 0.3\ nm.}$

The lifetime of such a virtual photon will be:

$\mathbf{\tau = \lambda_1/c = 0.3*10^{-9}/3*10^8 = 1*10^{-18}\ sec.}$

Based on these calculations and on the wave equation for electrical field, we can postulate following physical law: each photon with wavelength λ will induce in the space-time along its direction of propagation a lot of virtual photons with wavelength λ_1, where

$\mathbf{\lambda = k \bullet \lambda_1}$.

As is well known, the vital activity of a cell and its metabolism depends on the activity of genes located in the cell nucleus and in its mitochondria. Each gene is a chain of nucleotides, which can also be linked to the nucleotides of neighboring genes. The presence or absence of such connections determines the activity of the gene, whether it is in "on" or in "off" conditions. Gene expression depends on this, that is, the production of active substances by it, which determine the vital activity of the cell as a whole or the activity of mitochondria, in particular.

From the point of view of quantum electrodynamics, each nucleotide has a length of 0.34 nm and can be represented as a small electrical dipole, and a gene as a chain of dipoles connected with electrical interaction by oneself. As it was noted earlier, virtual photons with a wavelength of λ1 will form an electric field region of size λ1, which will exists for a virtual photon lifetime equal to τ.

If the electrical dipole is placed in an external electric field, then the Coulomb force will act on the dipole from the side of the field, the effect of which will depend on the orientation of the dipole relative to the direction of the external field. Dipoles can elongate if their internal field is opposite to the external field, or tighten if the directions of their fields coincide in direction, or turn if the dipole field is located at an angle to the external field. In any case, an electrical forceof the virtual photon will interact with electrical charges of the nucleotide during the lifetime of the virtual photon.

Any rapidly changing electromagnetic field generates at every point in the space constant electric fields with a radius, equal to the wavelength of virtual photons. If apply a relatively smallfrequency modulation to the fundamental frequency (carrier frequency), then the fundamental frequency will have sidebands, which, in turn, will also generate virtual photons, but with wavelengths different from the original. Thus, in the presence of frequency modulation, the constant electric field of virtual photons increases in size and begins to pulsate at the modulation frequency. The effect of influence by static electric field on single nucleotides will be maximal when the wavelength of the virtual photon (and, accordingly, the size of its electric field) will be less than or equal to the size of the nucleotide (0.34 nm).

The optimal carrier RF frequency for cancer cells reprogramming one can easy calculate, using simple equation (**3**). If the virtual photons wavelength λ_1 is equal to the length of a single nucleotide **L**, where $L = 0.34 \times 10^{-9}$ **m**, then wavelength of required RF wave will be equal to $\lambda = \lambda_1 \times k = 0.68$ **m**, what is correspond to the RF frequency 430 MHz.

By direct physical influence on nucleotides, their biological activity be changed and thus it may be influenced both the metabolism of the cell and its programming.

Experimental tests, confirmation of theoretically predicted value for carrier frequency and effect of cancer cells reprogramming by RF waves

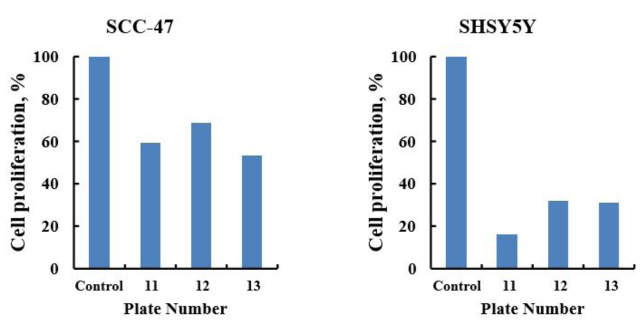

Figure 7: Reprogramming of human cancer cells by the “Magic Light device” device.

At Figure 7 above, is shown the decrease in the speed of proliferation, two different types of cancer cells under influencing by a weak, frequency modulated RF field with following parameters: carrier frequency 430 MHz, modulation frequency 1 kHz and power density was 3mW/cm^2. Control group of cells was not influenced by RF, groups 11, 12 and 13 was influenced in the same time by the same RF waves.

After 3 days, the quantity of cancer cells was measured and compared with the control group and, by this way, the speed of proliferation and the quantity of reprogrammed cells (reprogramming efficiency) was measured.

As one can see, we can observe the inhibition of SCC47 (Squamous Cell Carcinoma) cancer cells growth on 40%-50% after 30 min of exposure in a weak RF EM field. In this experiment we used all optimal parameters (frequency, modulation frequency and power density), mentioned above for Figure 7. The cancer cells’ growth inhibition effect tells us that cancer cells reprogramming effect has taken place.

When cancer cells convert into normative cells, the rate of growth decreased. It is very important to note that other cancer cells, SH-SY5Y (Neuroblastoma), which is a human derived cell line used in scientific research, were also influenced by weak RF EM field, and its speed of growth was inhibited by 70% - 90% from initial rate after 30 min of irradiation. The difference in reprogramming efficiency for these two types of cancer cells can be explained, if we take into account different speed of proliferation for these two cell lines.

If equation (3) is true, is the using of the frequency 430 MHz indeed an optimal value for cancer cells reprogramming? We can answer this question with our next experiment, shown in a Figure 8 below.

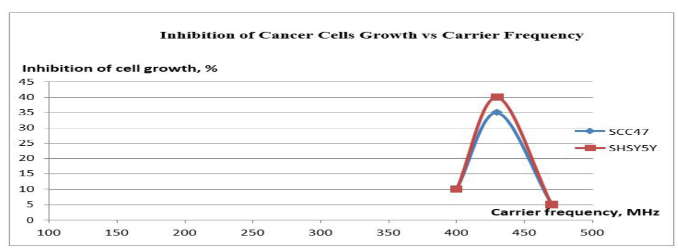

Figure 8: Reprogramming efficiency for cancer cells versus carrier frequency.

From Figure 8 it can be seen that the optimal carrier frequency for reprogramming process value is 430 MHz, which corresponds to the wavelength 0.68 m. According to the equation (3) described above, it corresponds to the wavelength of virtual photons 0.34 nm, which is equal to the nucleotides’ length. These measurements confirms the value of the dimensionless proportionality coefficient k = $2*10^9$ in equation (3). Further, we can formulate a new physical law, connecting classical and quantum electrodynamics and confirmed by experiment. According to equation (3), each electromagnetic wave with length λ, induce in space-time along direction of its propagation a lot of virtual photons with wavelength λ1.

What will happen further with reprogrammed cancer cells? Experiment with irradiation by RF of Myoma

As can be seen from Figure 7, the results of experiments on cancer cells show that reprogrammed cells stop dividing or at least significantly slow down the rate of proliferation. But what happens to the reprogrammed cells in the human body? This question can be answered by conducting an experiment on a patient. Since RF irradiation reprograms any dividing cells (not necessarily cancerous), it is possible to experiment with irradiation of fibroids. Myoma cells divide slowly but constantly, and Myoma grows at a rate about of 1 cm per year. In addition, the result of the experiment can be easily seen on a medical ultrasound machine.

The treating of Myoma was done by “Magic Light” laboratory device at the following parameters: Carrier Frequency 430 MHz, Modulation Frequency 4 kHz, Power Density 12 mW/cm^2 with following treatment protocol: a 30 min session, once a day, twice per week, during a 9 month. Results are shown in Figures 9 and 10 below.

Figure 9: Patient: Ada Eremeev (59), ID: 322031303; Initial: One big Myoma with size: 9.33 cm x 9.46 cm, measured 01.06.2021; Growth rate: 1 cm/year during last 5 years.

Figure 10: Last measurement (after 9 month of treatment):Two small parts of Myoma with sizes:First: 3.46 cm x 3.51 cm Second: 4.75 cm x 3.96 cm; Estimated decreasing speed rate: 10 cm/year.

The result of the experiment shows that reprogramming causes tumor shrinkage. Since irradiation cannot damage cells, a decrease in the number of cells can only occur if the reprogrammed cells enter the stage of apoptosis and die. This is the answer to the question placed by the author at the beginning of this section.

Determining of optimal clinical protocol for cancer treatment

For successful cancer treatment using electromagnetic waves for each type of cancer, its optimal treatment protocol and its optimal parameters must be found. This chapter describes the search for an optimal cancer treatment protocol using the example of the search for a treatment protocol for prostate adenocarcinoma.

Successful reprogramming of cancer cells leads to two consequences: first, the cells lose their ability to divide; and the second - reprogrammed cells, when trying to divide, enter the stage of apoptosis and die. Since these processes take time, the number of radiation sessions per day and per week is very important for the effectiveness of the treatment process. It can be seen from previous experiments that the drop in temperature and the corresponding decrease in cell metabolism occur within the first 15-25 minutes. Therefore, the required optimal duration of one irradiation session can be taken equal to 30 minutes. The process of selecting the optimal number of exposures per day and per week is shown in Figure 11 below.

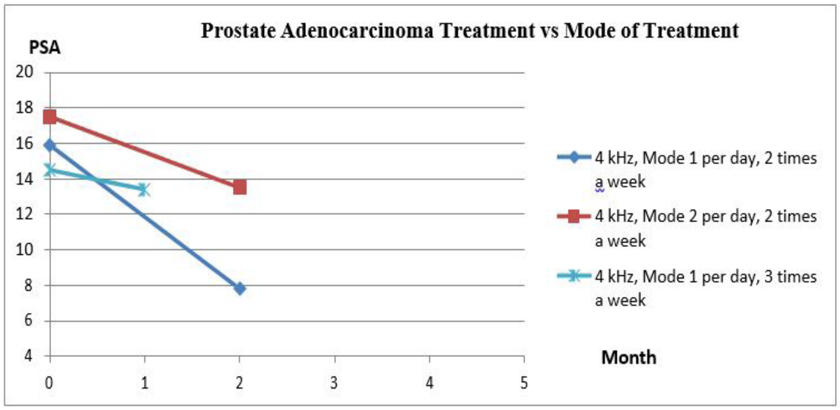

Figure 11: The process of selecting the optimal irradiation mode for the treatment of Prostate Adenocarcinoma.

As can be seen from the results of the prostate cancer treatment experiment shown above, the following mode is the most effective for the treatment of prostate adenocarcinoma: one session per day, two such sessions per week. This mode causes the most rapid decrease in the PSA control parameter, which is used to assess condition of the tumor and the effectiveness of the treatment process. Since each type of cancer has its own proliferation rate, it requires a similar selection of the optimal mode, while using its own, most appropriate, control parameter.

Importance of frequency of modulation for successful cancer treating and its optimization for treating of Adenocarcinoma

Choosing the right frequency of modulation is an extremely important step in finding the optimal cancer treatment mode for any specific cancer type and must be done for each type of the cancer separately. The reason for this is shown in Figure 12 below.

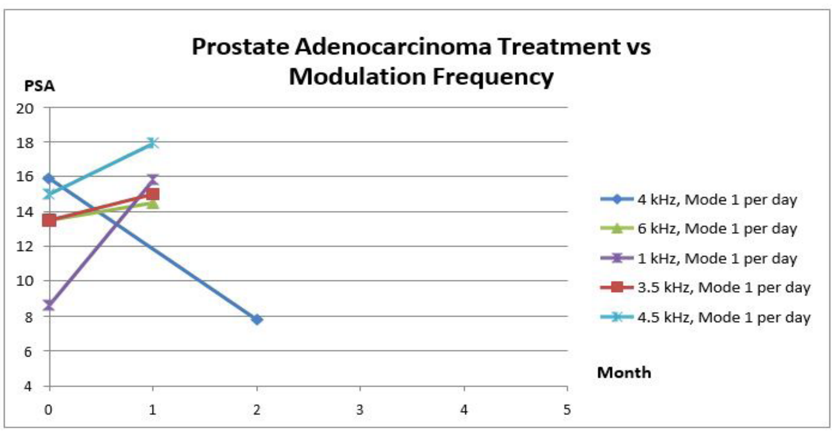

Figure 12: Optimization of frequency of modulation for treatment of Prostate Adenocarcinoma

Figure 12 shows, that the most optimal frequency of modulation for reprogramming Prostate Adenocarcinoma cells is 4 kHz. At a frequency of 6 kHz, the effect of reprogramming is not observed, and a frequency 1 kHz, on the contrary, stimulates the division of Prostate Adenocarcinoma cells. At the same time, it should be noted that, as can be seen from Figure 13, a frequency of 1 kHz is an optimal value for reprogramming and stopping of SHSY5Y cell division (Neuroblastoma) and is very close to the optimum for SCC cancer cells (Squamous Cell Carcinoma). A more precise search of the optimal modulation frequency for the treatment of Prostate Adenocarcinoma is shown below in Figure 14.

Optimization of frequency of modulation for treatment of any specific cancer type

As follows from the above, the first step in preparing for the treatment of any specific type of cancer consists in precision determination of the optimal frequency of modulation. The preliminary step in this case should be an accurate determination of the type of cancer using a biopsy. Then, a suitable control parameter must be found, which will be used in the future to measure the effectiveness of reprogramming cancer cells. In the case of Prostate Adenocarcinoma, such control parameter is PSA, which is measured in a blood test. In cases where it is difficult to find such a parameter, experiments on cancer cells of this type can be used. In this case, the control parameter will be the percentage of reprogrammed cells.

The best method to approximate the optimal modulation frequency for a particular type of cancer is to start at 6 kHz and then decrease the frequency every 1 kHz. The next step in the search for the optimal modulation frequency is the step of its precise determination. The first step in this case is its rough determination by three points, an example of which for SCC cancer cells is shown in Figure 13. A more precise determination of the optimal modulation frequency for Prostate Adenocarcinoma is shown in Figure 14 below.

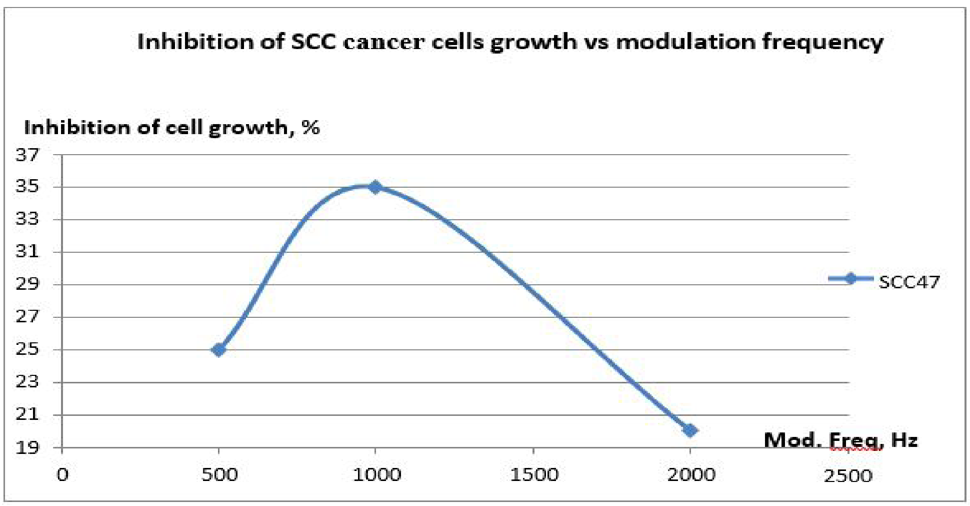

Figure 13: Search for optimal modulation frequency for Squamous Cell Carcinoma (SCC cells).

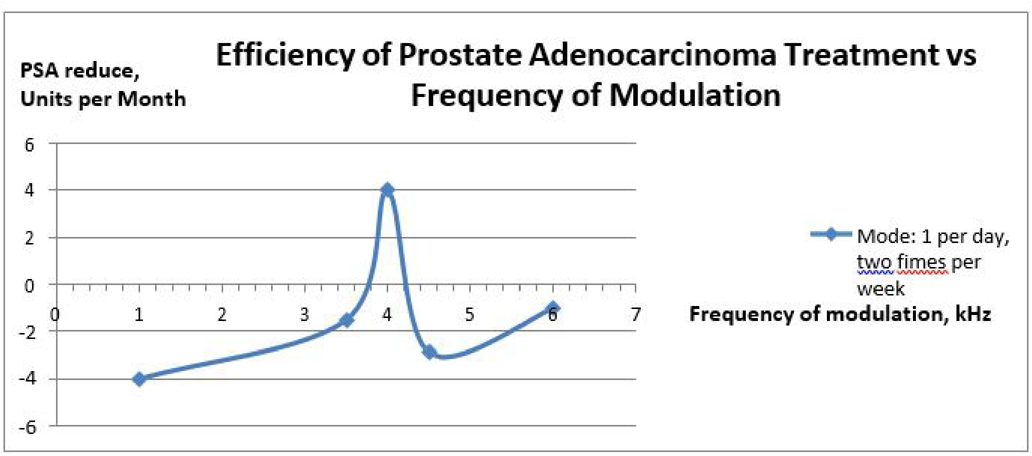

Figure 14: Search for optimal modulation frequency for Prostate Adenocarcinoma (Patient Lev Dvorkin – an Author of this work)

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Comparison of described methodic for cancer treatment with currently used methods

All existing widely used methods for the treatment of cancer, such as Surgery, Chemotherapy, Immunotherapy or X-Ray irradiation have as their goal total destruction of cancer cells. Such destruction can be often not permanent and damaged cancer cells can regenerate. Also, all these methods do not have a selective effect and damage and destroy also healthy cells, what can cause irreversible harm to the human body and undermine the ability of its own immune system. Often, some cancer cells get used to chemotherapy and continue to divide in the future. With widespread metastases, doctors are often forced to recognize further treatment as useless and discontinue it. For all these reasons, conventional medicine currently aims, not to completely cure a patient with an oncological disease, but at least to prolong his life somewhat. The method proposed in this paper, aims to cure the patient completely from oncology.

To achieve this, the goal of the described method is to reprogram cancer cells into normative cells with the help of RF irradiation and stop their division. Experiments have shown that reprogrammed cancer cells enter the apoptosis phase, die off and are removed from the body. In this case, only cancer cells undergo reprogramming, since reprogramming under the influence of RF can occur only during the process of cell division, when it is most sensitive to external physical influences.

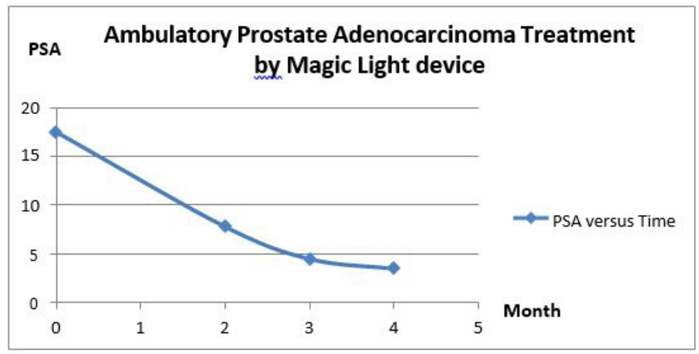
For this reason, the proposed method of cancer treatment is absolutely safe and can be used on a patient an unlimited number of times. However, it cannot be applied to pregnant women, as it can be dangerous for the development of the fetus.

The dimensions of the reflector are 60 x 60 cm, the applied wavelength is 68 cm, and the distance to the patient is 1 m, which makes it possible to expose the entire patient’s body to RF irradiation. Thus, cancer cells cannot escape reprogramming, no matter where they are in the body. For this reason, the proposed method can reprogram not only tumor cells, but also metastasis cells. As a consequence, the proposed method can provide a complete cure for cancer, regardless of the current stage of the disease. An additional and important advantage of the proposed method is its versatility, which is based on the fact that all cancer cells divide, and the method stops cell division. It can be successfully used to treat any type of cancer.

The use of a laboratory sample of the “Magic Light” device for the treatment of fibroids and adenocarcinoma of the prostate made it possible to verify, not only the effectiveness of the reprogramming method, but also its safety. During two years of using this method on two patients, no side effects were found or observed. The method is very easy to use and can be used also in ambulatory treatment.

Example of treating by Magic Light device of Prostate Adenocarcinoma Grade 1

Patient – Lev Dvorkin, (65), ID – 307436816, Israel, E-mail: dvorkin1957@gmail.com Treatment protocol: one 30-min session a day, twice a week. Parameters: Frequency 430 MHz, Modulation Frequency 4 kHz, Power Density 12 mW/cm^2, Distance 1 m.



Note: All medical documents for confirmation can be found in Appendixes below.

Resume after the first MRI (01.2022), see Appendix A:

Ill-defined areas in the TZ of both lobes at the level of the base of the prostate show characteristics that raise a moderate suspicion of malignancy. PI-RADS 3.

Capsule is in a good condition.

No lymphadenopathy.

Resume after the second MRI (01.2023), see Appendix C:

No prostate lesions with characteristics suspicious for malignancy were detected, PI-RADS 1.

Conclusion

In this work was confirmed experimentally that method of cancer treatment “Magic Light” can be successfully used for complete cure of Prostate Adenocarcinoma at carrier frequency 430 MHz and modulation frequency 4 kHz. Maybe, other types of Adenocarcinoma can be treated at the same parameters. But other kinds of cancer, like SCC, Neuroblastoma, Sarcoma or Glioblastoma will require other values of modulation frequency for the treatment protocol.

It was shown that method of cancer treatment “Magic Light” hasn’t any side effects. It cannot be recommended to use for pregnant women only. It should be effective also to cure patients with metastases.

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