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Research Article

Controlling the Behavior of Cancer Cells Using Electromagnetic Fields in the Orchestrated Objective Reduction Model

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ABSTRACT

In this paper, we propose a novel theoretical framework within the orchestrated objective reduction (Orch OR) model to investigate the role of electromagnetic fields in controlling the behavior of cancer cells. According to our approach, the brain captures, stores, and analyzes cellular information through electromagnetic signaling, subsequently sending regulatory commands to maintain normal cellular function. When cells undergo malignant transformation, the stored information and the corresponding electromagnetic signals change, providing an opportunity for early detection of tumor formation. We further suggest that by storing the correct information and transmitting appropriate electromagnetic signals, the brain may create the conditions necessary to restore cancerous cells to their normal state. This work introduces a new perspective on the early diagnosis and potential control of cancer based on quantum neurobiological principles.

1. INTRODUCTION

The *Orch OR* (**Orch**estrated **O**bjective **R**eduction) model is one of the best and most complete models that explains the mechanism of information storage in the brain [1–4]. This model, developed in collaboration between two famous experts – the Physics Nobel Laureate Roger Penrose and Anesthesiologist Stuart Hameroff – shows that quantum information can be stored in the form of polarization

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of the hexagonal structures of molecules inside the microtubule (cylindrical protein structures that help maintain the shape of neurons and play a role in intracellular transport) or the movement and spin of electrons and photons. So far, different applications have been mentioned for this model, but perhaps the most important application is the treatment of incurable diseases such as cancer [5, 6].
In the Orch OR model, the process of creating and storing information is done by qubits, or quantum bits, that are inside the microtubules of neurons. These qubits are oscillating dipoles whose type of oscillation and how they are placed together or oriented can be related to the type of information they store. These dipoles can be electrical structures, or they can also be magnetic structures such as the spin of electrons, nuclei, or even molecules. In this model; information is stored in the form of quantum states of these quantum bits or their entangled states in the microtubules of neurons. Mathematically, these states are described by the superposition relation

$$\psi = \alpha\uparrow + \beta\downarrow, \tag{1}$$

where $\alpha, \beta \in \mathbb{C}$ are amplitudes satisfying the law of total probability $|a|^2 + |b|^2 = 1$, and

$$\uparrow = \begin{pmatrix} 1 \\ 0 \end{pmatrix}, \quad \downarrow = \begin{pmatrix} 0 \\ 1 \end{pmatrix}. \tag{2}$$

Penrose proposed that quantum states do not collapse due to interaction with the environment, as in decoherence, but due to an intrinsic effect of quantum gravity, known as *objective reduction*. In this model, when quantum superpositions reach a certain threshold of mass-energy separation, they undergo a self-collapse, which is non-random and objective. Further in this model, the time taken for collapse is given by

$$\tau = \frac{\hbar}{E_G}, \tag{3}$$

where $\hbar$ is the reduced Planck constant, and E_G is the gravitational self-energy, which is the energy difference due to mass separation in superposition. This simple equation in (3) has profound consequences: It suggests that quantum collapse occurs after a time τ, which is potentially linked to the emergence of a conscious experience.
In this paper, we propose a novel hypothesis extending the Orch OR model to cancer detection and treatment. We suggest that quantum information related to the health and activity of body cells is stored within brain microtubules and that deviations in this stored information correlate with the onset of diseases such as cancer. Specifically, changes in the polarization and spin states of microtubules – molecules associated with cancerous transformations can be detected and potentially corrected using electromagnetic or quantum-field-based therapies. By correcting the altered quantum information within microtubules, it may be possible to influence cancerous cells at a quantum level, guiding them back to a normal, healthy state.

1.1 Original Contributions

1. We extend the Orch OR model, typically associated with consciousness, to propose a quantum biological framework for cancer diagnosis and treatment. In doing so, we suggest that information about cellular health is stored in the quantum states of microtubules and that this information can be accessed to diagnose diseases such as cancer.

2. Building upon existing research on the effects of electromagnetic fields on cancer cells, we hypothesize that quantum information stored in microtubules can be corrected by using targeted electromagnetic fields. This quantum correction mechanism can potentially reprogram cancerous cells, guiding them back to normal functioning.

Further, we explore how microtubules in the brain could store, process, and exchange quantum information related to the state of body cells. In addition, it examines the feasibility of utilizing quantum information theory and low-frequency electromagnetic fields to detect and correct the anomalous information associated with cancerous cells. By leveraging insights from quantum biology, we propose a new direction for medical research, one that aims to harness the quantum informational processes of the brain to treat cancer at the most fundamental biological level.

This paper is organized as follows:
In Sec. 2, we describe the experimental methods adopted.
In Sec. 3, we furnish the results from the experiments.
In Sec. 4, we provide the mathematical results obtained from this study.
In Sec. 5, we discuss the findings of the research.
In Sec. 6, we provide closing remarks on the study.

2. METHODS

In this section, we outline the methods adopted to carry out this research. Initially, we provide hypotheses that we hope to experimentally test and then describe the experimental procedures.

2.1 Hypotheses

1. Quantum information within microtubules stores the physiological status of body cells, and deviations from this information reflect disease states, in our case, cancer.

2. Changes in polarization and quantum coherence within microtubules can signal the presence of cancerous cells.

3. By manipulating the quantum information stored in microtubules, we can influence cancerous cells at a quantum level, restoring them to a healthy state through the use of electromagnetic fields or other quantum-field therapies.

The Orch OR model explains [1–4, 7, 8] that a set of biological quantum processes in microtubules inside brain neurons. control synaptic activities and the storage and exchange of information between nerve cells. In fact, these microtubules have some molecules with hexagonal structures in their chemical structure. These hexagonal structures exchange electric and magnetic fields, store information in the form of quantum fields, and act like biocapacitors and bioinducers. The addition of Penrose's ideas to the model played an important role in explaining the process of storing and retrieving information in the brain and a description of consciousness. This model is directly related to the fundamentals of quantum mechanics and space-time geometry. This model explains that there is a direct relationship between the biomolecular methods of the brain and quantum science. For this reason, the Orch OR model can be described as an influential model in the development of quantum biology, neuroscience and physics. In this model; vibrations of microtubules and molecules and ions and even electrons inside them can be seen in the signals taken from the brain in electroencephalography ('EEG') methods. Using these signals; it may be possible to control the storage of information in the brain. Each quantum bit of information in brain cells may be related to an action of a cell. In this way, by changing the stored information, cellular activities change. This property can be used to control and inhibit tumor cells. First, by observing the change of stored information related to a specific cell in the brain, it is possible to detect cell changes and predict the probability of cancer. Then, by storing

correct and appropriate information, it is possible to modify the behavior of the cancer cell and change its state to a normal state.

To describe the relation between the Orch OR model and cancer treatment, the process of information storage and its recovery in brain cells should be understood. Previously, by using concepts in quantum biology, a proposal for information storage in brain cells has been proposed [2]. In this proposal, microtubules play a main role in the quantum computation of information in brain cells. Quantum activities of microtubules directly affect evolutions in all parts of brain cells, like dendrites and cell bodies of brain neurons, and control exchange fields and ions in gap junctions. Exchanged quantum information between microtubules can cause to entanglement of microtubules among many neurons. Quantum information exchanging and quantum computations of information in entangled microtubules could be explained by Penrose's "objective reduction (OR)", which is a model for quantum state reduction, and thus, conscious moments could be connected to quantum mechanics and fundamental quantum spacetime geometry. In this model, each objective reduction chooses microtubule states that can cause axonal firings and control the behavior of cells. The quantum computations are "orchestrated" by synaptic inputs and memory (thus "Orch OR"). Orch OR may produce temporal non-locality, cause the emission of quantum information backward in classical time, and contribute to conscious control of behavior. Also; Penrose OR (and Orch OR) may take non-computable influences from information embedded in spacetime geometry that prevents algorithmic determinism. Thus; Orch OR model may have the ability to describe real-time conscious causal agency and explains conscious free will [2–4, 7, 8]. On the other hand, in this model; information related to each cell of the body is explained by the quantum states of molecules in microtubules. These properties of the Orch OR model may help us to propose a medical imaging technique for detecting cancer cells through changes in stored information related to activities of a special cell in microtubules and neurons. After the diagnosis of cancer cells and the place of information storage in the brain, by replacing the information related to healthy cells instead of the information of cancer cells, one can cause the production of electrical, magnetic, and chemical signals that are able to restore the diseased cells to their normal state.

Before suggesting a technique for detecting and treating cancers in the Orch OR model, it is necessary to know the information storage process in this model. In this model; biological information processing, storage, and transduction are done by fields exchanging between subunits of microtubules. Thus, quantum biological information activities can be done using a microtubule structure. These structures build some bioelectrical and magnetic devices like bio-transistor circuits, bio-magnetic bubble memory, bio-charge transfer devices, bio-surface acoustic wave resonators, and producers of holography [3, 4]. If the information storage location of each body cell is known in the brain; it will be possible to change the behavior of body cells and control them. It is enough to know the type of information stored in healthy cells. This information is related to the daily activity of normal cells, their growth, and their interaction with other cells and the surrounding environment. Changes in stored information compared to the normal state indicate various diseases such as cancer. On the other hand, the stored information related to each cell can be retrieved and produce bioelectric currents or electric and magnetic fields. These currents and fields can be sent to the target cell to control its behavior. If the information related to cancerous cells is replaced by the information of normal cells, the currents and fields sent by the brain can return the cancerous cells to a normal state.

To be able to use the Orch OR model to treat cancers, we need to know the mechanism of information exchange between circuits and brain cells and cancer cells. Brain cells use different chemical, electrical, and even magnetic methods to exchange information with cells of other body parts. In fact, first, some vital information is stored in the brain cells, and when the cells of other organs need

that information, that information is recovered and sent to the target cells in the form of chemical or electrical and magnetic signals. To control cancer cells; we must examine the mechanism of the effect of signals sent from the brain on different cells. Fortunately, the effect of magnetic signals on cancer cells has been investigated [5].

Recently, an interesting mechanism has been proposed to control cancer disease and tumor cells using the influence of extremely low-frequency electromagnetic fields on cell growth5. Previously, it was known that low-frequency magnetic fields had significant effects on tumor growth and cancer progress. However, the effect of a low-frequency magnetic field on the interaction between cells was still poorly understood. This mechanism considered the direct effect of the magnetic field directly on cancer cells and the indirect effect mediated by cell-environment. In this study, the growth of 293 T cells, Hep G2 cells, and A549 cells have been considered at 37 ± 0.18 °C in the presence of an extremely low-frequency magnetic field of 20 Hz, 5-mT [5]. Cancer and tumor cells were more sensitive to magnetic field control in the original environment, with control rates for Hep G2 and A549 estimated at 18% and 30%, respectively. In this mechanism; noncancer cells showed no control effect on exposure to a low-frequency magnetic field. Now, the question arises: How can magnetic fields be used to control cancer cells in the Orch OR model? The Orch OR model discusses the storage and retrieval of quantum information in the brain. After decoded information in the brain cells, this quantum information becomes electric currents or electrical and magnetical fields and is sent to the target cells. Suppose the impact of electromagnetic fields on cancer cells is known. In that case, one can store relevant information in the brain that, by their decoding, the necessary electric and magnetic fields that can control cancer cells are produced.

3. EXPERIMENTAL RESULTS

Before a cell goes out of its normal state and becomes a cancer cell, it sends its information to the brain through electromagnetic waves. Inside the brain, microtubules store information through the specific polarization of hexagonal molecules and their spin or the movement of electrons and photons. Suppose two hexagonal structures have opposite spins, and the arrangement of spins is related to the storage of a quantum of information. If we assume that the storage of quanta of information is related to the number associated with the probability function that the spin of one hexagonal structure should be up and the other down, and for example, this function is cosine alpha, at least three hundred and sixty quantum of information for alpha integers and infinite quantum of information for half integers can be stored. On the other hand, the number of these structures in the brain is large, and therefore infinite quantum states can be stored in the brain. It is natural that all the activities of body cells are checked and archived in this information system, see Figs. 1 and 2.

Therefore, cell changes and their transformation into cancerous cells are also checked in the brain, and related information is stored. As a result, the polarization of molecules in the brain of a cancer patient is different from that of a healthy patient, and from the change of waves in the brain cells, it is possible to understand the creation of cancer cells. To treat all types of cancers, it is enough to know the type of polarization of brain molecules for a healthy person, and sending appropriate waves to the brain of a cancer patient forces the molecules inside it to return to their normal state of polarization. This change in polarity causes the brain to send messages to the cancer cells, which will most likely force them to return to normal, see Fig. 3.

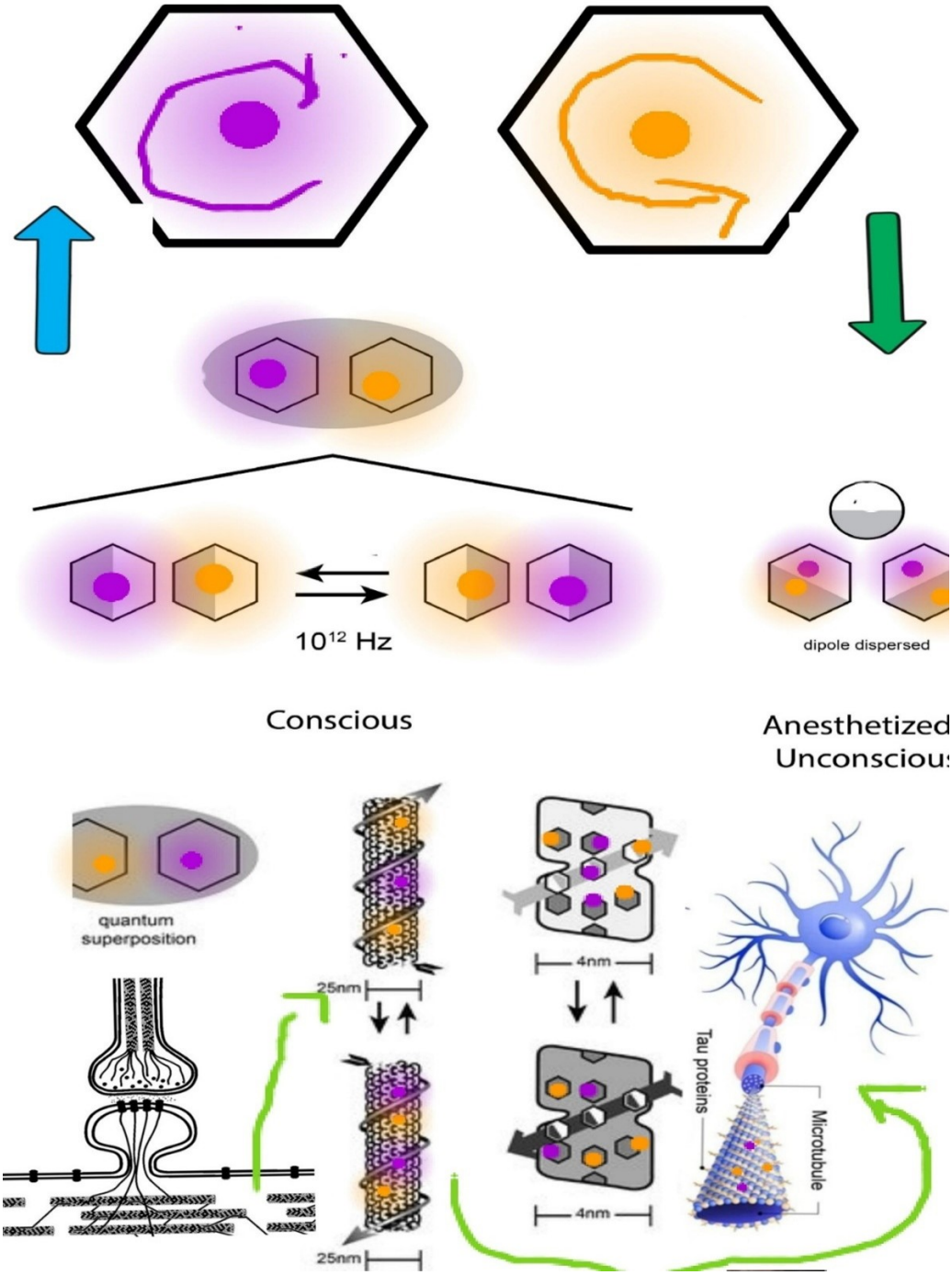

Fig. 1. A model for storing information in the brain.

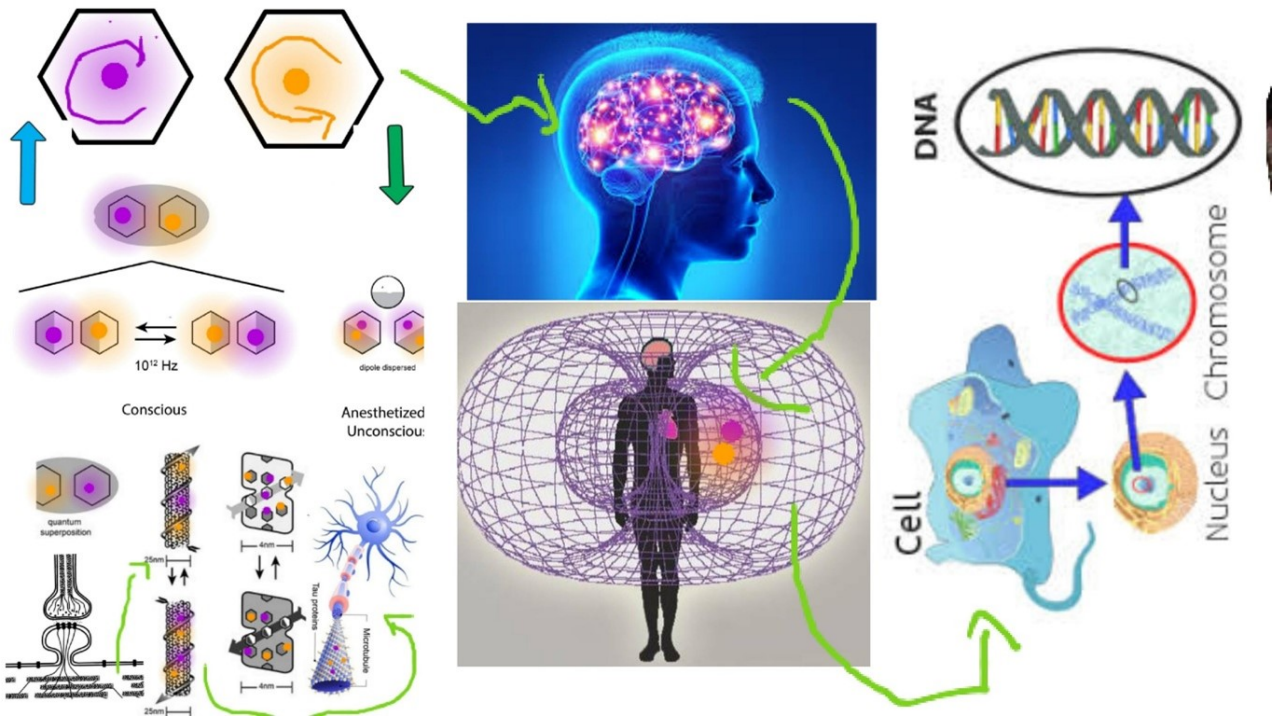

Fig. 2. Brain stores all cellular information.

4. MATHEMATICAL RESULTS

Suppose that spinors have the main role in information storage. For example, the direction of spins could be related to a bit of information. We can write the two-spinor correlation function as

$$TSCF_{\uparrow\downarrow} = \cos\alpha \times ES(\uparrow\downarrow) + \sin\alpha \times ES(\downarrow\uparrow), \tag{4}$$

where ES denotes the entangled spinors and

$$\begin{aligned} \sin\alpha &= \exp\left(-E_{ES} \times T^{-1}\right)\left[1 + \exp\left(-2E_{ES} \times T^{-1}\right)\right]^{-1/2}, \\ \cos\alpha &= \left[1 + \exp\left(-2E_{ES} \times T^{-1}\right)\right]^{-1/2}, \end{aligned} \tag{5}$$

with α being some arbitrary angle, T as the temperature of the two-spinor system and

$$\begin{aligned} E_{ES} &= -\mathbf{M}_{S_1} \cdot \mathbf{M}_{S_2} = -D_{S_1:S_2} \times S_1 \times S_2, \\ M_{S_i} &= (g_{S_i} \times e)(2m_e)^{-1} \times S_i, \quad \text{for } i = 1, 2, \\ D_{S_1:S_2} &= g_{S_1} \times g_{S_2} \times e^2 \times (2m_e)^{-2}, \end{aligned} \tag{6}$$

with $S = \hbar M_S$ being the spin of the electrons, E_{ES} being the energy of the two-coupled spins, $M_S = \left\{-\frac{1}{2}, +\frac{1}{2}\right\}$ is the magnetic moment of spin, m_e is the mass of the electron, g is the coefficient of the magnetic moment (= 2 for electrons), and e is the charge of the electron.

Now Suppose that extra evolutions inside Hume's body produce extra free radicals or ions and also extra spinors. We can write the existing or non-existing function as

$$\text{Ex or Non-Ex}_{\uparrow\downarrow:\downarrow\uparrow} = \cos\beta \times \text{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4) + \sin\beta \times \text{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4), \tag{7}$$

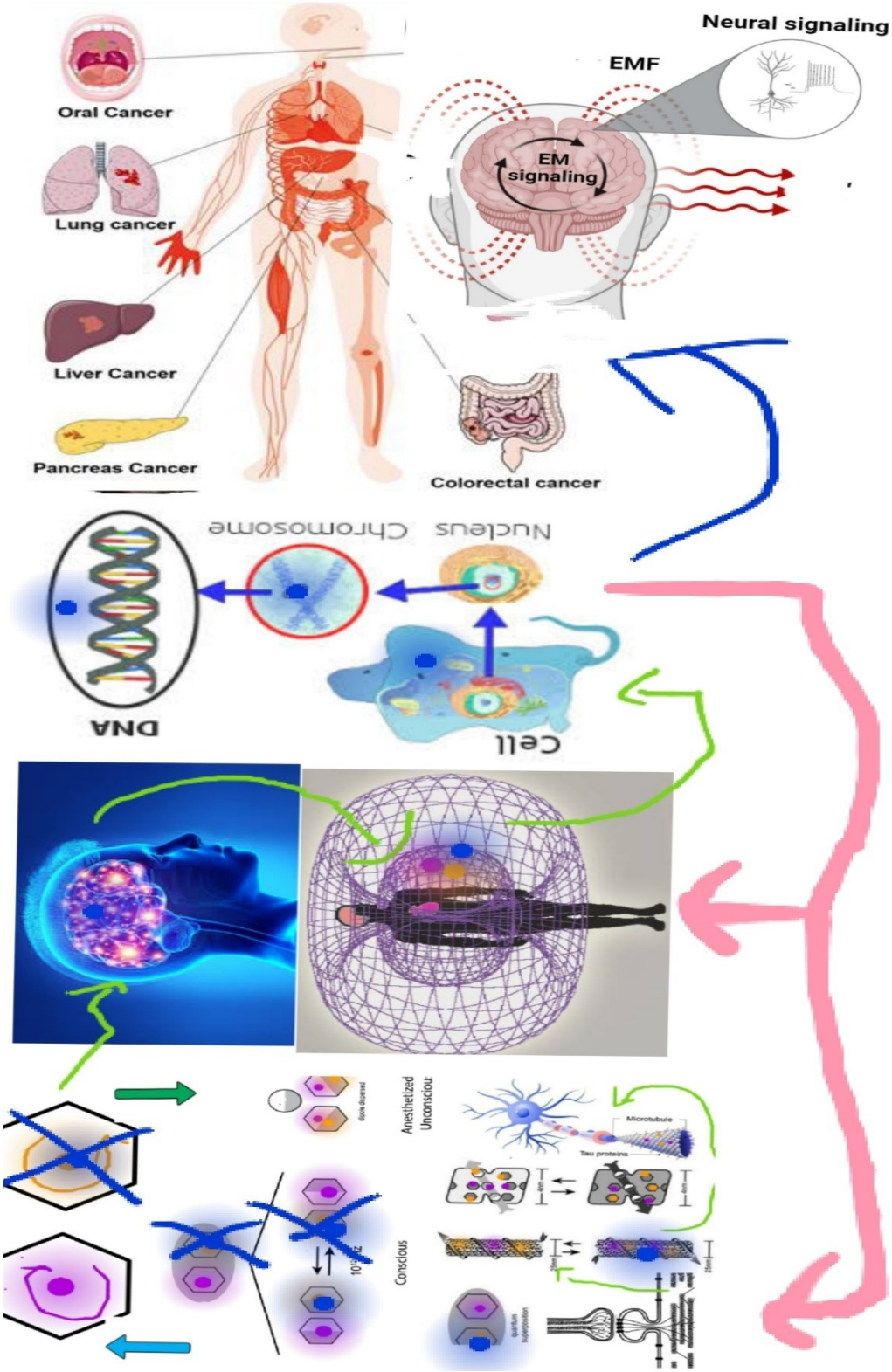

Fig. 3. By correcting stored information in the microtubules of a cancerous patient, the brain can send the necessary messages to the cells to return them to normal.

where En denotes the entangled existence/non-existence, and β is an arbitrary angle related by

$$\begin{aligned}\sin\beta &= \exp\left(-E_{\mathrm{EN}} \times T^{-1}\right)\left[1+\exp\left(-2E_{\mathrm{En}} \times T^{-1}\right)\right]^{-1/2},\\ \cos\beta &= \left[1+\exp\left(-2E_{\mathrm{En}} \times T^{-1}\right)\right]^{-1/2},\end{aligned} \tag{8}$$

where E_{En} is the energy of the entangled existence. The energy of the entangled existence is given by

$$E_{\mathrm{En}} = 2 \times m_e c^2 - \mathbf{M}_{S_3} \cdot \mathbf{M}_{S_4}, \tag{9}$$

where c is the speed of light. For the case

$$\mathrm{En}(\text{Non-Ex}_3, \text{Non-Ex}_4) = (0:0), \tag{10}$$

we have that

$$\mathrm{En}(\mathrm{Ex}_3 : \mathrm{Ex}_{4,\uparrow\downarrow:\downarrow\uparrow}) = TSCF_{\uparrow 3\downarrow 4} = \cos\alpha \times ES(\uparrow 3 \downarrow 4) + \sin\alpha \times ES(\downarrow 3 \uparrow 4). \tag{11}$$

Therefore, the existing and non-existing functions can be written as

$$\begin{aligned}\text{Ex or Non-Ex}_{\downarrow\uparrow:\downarrow\uparrow,3:4} &= \cos\beta_{3:4} \times \mathrm{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4)\\ &\quad + \sin\beta_{3:4} \times \mathrm{En}(\mathrm{Ex}_3 : \mathrm{Ex}_{4,\uparrow\downarrow:\downarrow\uparrow})\\ &= \cos\beta_{3:4} \times \mathrm{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4)\\ &\quad + \sin\beta_{3:4} \times TSCF_{\uparrow 3\downarrow 4}\\ &= \cos\beta_{3:4} \times \mathrm{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4)\\ &\quad + \sin\beta_{3:4} \times \cos\alpha_{3:4} \times ES(\uparrow 3 \downarrow 4)\\ &\quad + \sin\alpha_{3:4} \times \sin\beta_{3:4} \times ES(\downarrow 3 \uparrow 4).\end{aligned} \tag{12}$$

These new states are produced by new evolutions inside the human body, like cancer. According to the Warburg effect [9–11], the mechanism of respiration of tumor cells is different, and thus, the number of ions, electrons, and spinors emitted by these cells is different from normal ones. These extra spinors have direct effects on initial entangled spinors. We can write

$$\begin{aligned}TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex}_{\uparrow\downarrow:\downarrow\uparrow 3:4}) &= \{\cos\alpha_{1:2} \times ES(\uparrow\downarrow 1:2)\\ &\quad + [\sin\alpha_{1:2} \times ES(\downarrow\uparrow 1:2)\}\\ &\quad \times \{\cos\beta_{3:4} \times \mathrm{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4)]\\ &\quad + \sin\beta_{3:4} \times [\cos\alpha_{3:4} \times ES(\uparrow 3 \downarrow 4)\\ &\quad + \sin\alpha_{3:4} \times ES(\downarrow 3 \uparrow 4)]\}.\end{aligned} \tag{13}$$

However, extra spinors 3 and 4 produce new entanglement with spinors 1 and 2 and change the shape of the system

$$\begin{aligned}\mathrm{comb}\left[TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex})_{\uparrow\downarrow:\downarrow\uparrow 3:4}\right] &= \cos\beta_{3:4} \times \mathrm{En}(\text{Non-Ex}_3 : \text{Non-Ex}_4)\\ &\quad \times [\cos\alpha_{1:2} ES(\uparrow\downarrow 1:2) + \sin\alpha_{1:2}\\ &\quad \times ES(\downarrow\uparrow 1:2)] + \sin\beta_{3:4}[\cos\alpha_{3:4} \times \cos\alpha_{1:2}\\ &\quad \times ES(\uparrow 3 \downarrow 4) \times ES(\uparrow\downarrow 1:2) + \cos\alpha_{3:2} \times \cos\alpha_{1:4}\\ &\quad \times ES(\uparrow 3 \downarrow 2) \times ES(\uparrow\downarrow 4:1)] + [\sin\alpha_{3:4}\\ &\quad \times \sin\alpha_{1:2} \times ES(\downarrow 3 \uparrow 4) \times ES(\downarrow 1 \uparrow 2)\\ &\quad + \sin\alpha_{3:2} \times \sin\alpha_{1:4} \times ES(\downarrow 3 \uparrow 2) \times ES(\downarrow 1 \uparrow 4)],\end{aligned} \tag{14}$$

where comb $\left[TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex})_{\uparrow\downarrow:\downarrow\uparrow 3:4}\right]$ is a function of four entangled spinors.
Eqn. (14) shows that initial spinors that store information lose their stability, and some new entangled states appear. This means that these new entangled states correspond to new information that is stored in molecules of the brain. The new entangled states have different energies with respect to the initial entangled states. Thus, some amount of energy is deliberated or attracted by the spinors. We can write

$$\begin{aligned} E_{\text{deliberated}} &= \left| E\left(TSCF_{\uparrow\downarrow 1:2}\right) - E\left\{\text{comb}\left[TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex})_{\uparrow\downarrow:\downarrow\uparrow 3:4}\right]\right\}\right| \\ &= N \times E_{\gamma} \\ &= N \times h \times f, \end{aligned} \tag{15}$$

where N is the number of photons, E_{γ} is the photon energy, h is Planck's constant, and f is the photon frequency. In Tab. I, we summarize the frequencies of the various brain waves.

Wave Type of Brain Waves	Frequency Range (Hz)	Activity when Emitted
Δ	0.5 – 4	Deep sleep, transcendence, restorative.
Θ	4 – 8	visualization, trance, dreaming.
A	8 – 12	Meditation, relaxation, creativity.
B	12 – 30	Alertness, concentrating, thinking.
Γ	30 – 100	Insight, peak experiences, synchronization.

TABLE I. Frequency ranges for the wave type emitted by the brain.

Now,

$$\begin{aligned} E(TSCF_{\uparrow\downarrow 1:2}) &= \sin^2\alpha \times E_{ES,1:2} \\ &= \exp\left(-2E_{ES,1:2} \times T^{-1}\right) \times \exp\left[1 + \exp\left(-2E_{ES,1:2} \times T^{-1}\right)\right] \\ &\quad \times\ E_{ES,1:2} \end{aligned} \tag{16}$$

with

$$E_{ES,1:2} = -\mathbf{M}_{S_1} \cdot \mathbf{M}_{S_2}, \tag{17}$$

and

$$\begin{aligned} E\left\{\text{comb}\left[TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex})_{\uparrow\downarrow:\downarrow\uparrow 3:4}\right]\right\} = \Big[&\sin^2\beta_{3:4} \times \cos^2\alpha_{3:4} \times \cos^2\alpha_{1:2} \\ &+ \sin^2\beta_{3:4} \times \cos^2\alpha_{3:2} \times \cos^2\alpha_{1:4} \\ &+ \sin^2\beta_{3:4} \times \sin^2\alpha_{3:4} \times \sin^2\alpha_{1:2} \\ &+ \sin^2\beta_{3:4} \times \sin^2\alpha_{3:2} \sin^2\alpha_{1:4}\Big] \times E_{\text{tot}}, \end{aligned} \tag{18}$$

where

$$\begin{aligned} E_{\text{tot}} &= E_{ES,1:2} + E_{\text{En}}, \\ E_{\text{En}} &= 2 \times M_e \times c^2 - M_{S_3} \times M_{S_4}, \\ E_{ES} &= -D_{S_1:S_2} \times (\mathbf{S}_1 \cdot \mathbf{S}_2)\,. \end{aligned} \tag{19}$$

This energy could be seen in radiated signals of the brain. For example, previously, it has been shown that EEG for patients with tumors is different from a healthy person; see [12].

It seems that most changes in EEG could be seen in the low frequencies of waves. To show this, we can use of below equation

$$N = (hf)^{-1} \times \left| E(TSCF_{\uparrow\downarrow 1:2}) - E\left\{\text{comb}\left[TSCF_{\uparrow\downarrow 1:2} \times (\text{Ex or Non-Ex})_{\uparrow\downarrow:\downarrow\uparrow 3:4}\right]\right\}\right|. \tag{20}$$

As indicated previously, the number of photons given in Eqn. (20) could cause a change in the EEG figures. In Fig. 4, we furnish a plot of the number of photons versus temperature as described in Eqn. (20).

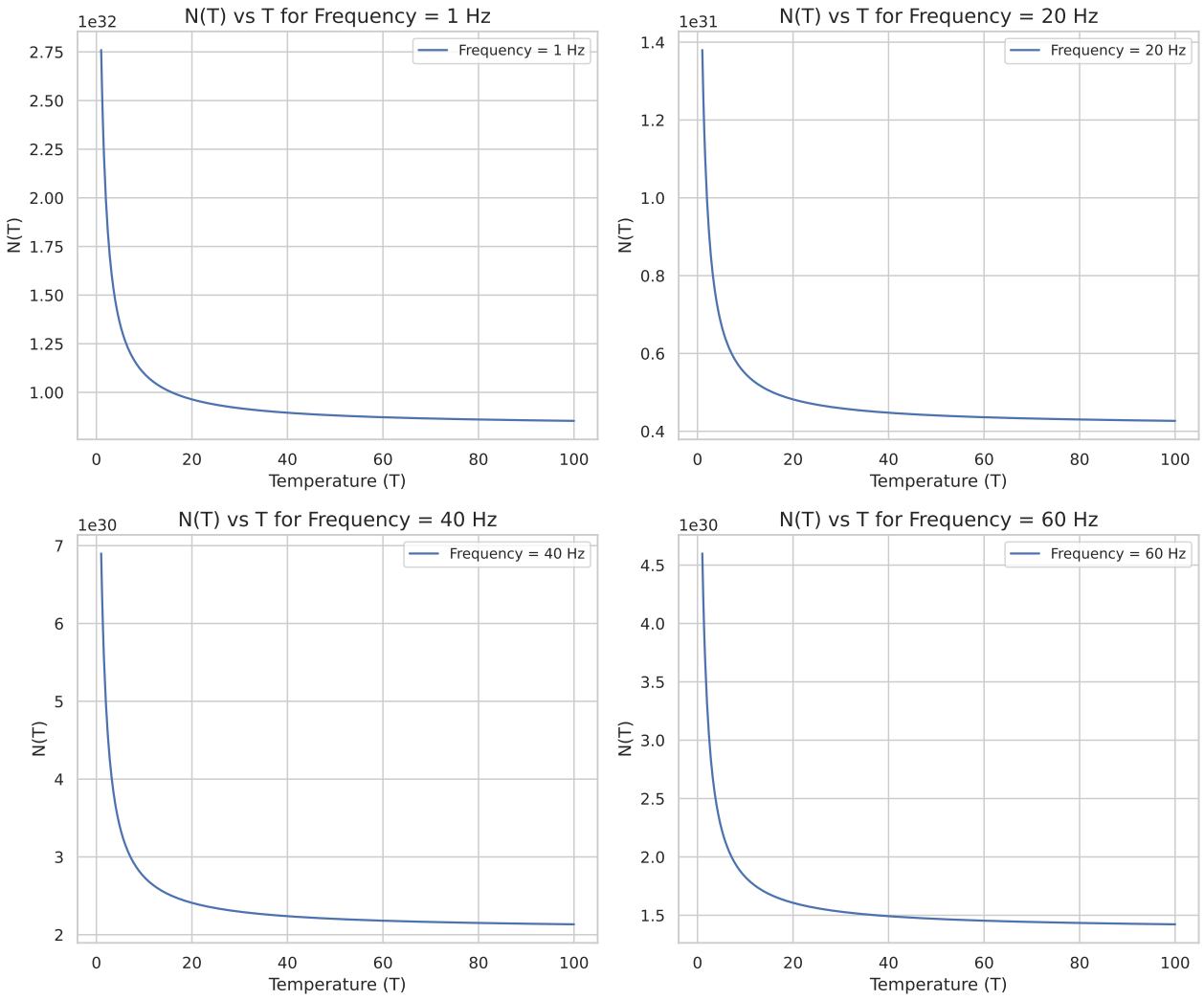

Fig. 4. Plot of the number of photons for various temperatures. The frequency variable was varied between $1 - 60$ Hz, in keeping with the common frequency range of brain waves.

From Fig. 4, it is clear that by increasing the temperature of the system, the effects of the tumor decrease, and the number of radiated photons that may help us in diagnosing the tumors decreases. The effects of radiated photons could be seen in the experimental data of EEG. Further, as is evidenced, radiated photons change the shape profile of the EEG plots.

5. DISCUSSION

Brain cells store information about all cells of the human body and control them. Any change in a cell can be detected by brain cells. Thus, it is natural that by analyzing stored information in brain cells, some diseases like cancers are diagnosed. Fortunately, Orch OR describes the information storage mechanism within the microtubules of neurons. According to this model, by considering radiated fields from microtubules, one can diagnose diseases. Then, by using external fields, one can replace information about nonhealthy cells with information about healthy cells and cure diseases.

According to Valverde [13], the biochemistry of the body is a product of quantum consciousness, this includes feelings, emotions, thoughts, and ideas that create reactions that sustain life in every cell. The use of quantum mechanics is not new in cancer diagnosis. Medical biometrics based on the gas discharge visualization (GDV) technique has been used in medicine to monitor patients and compare their natural electro-photonic emission before and after cancer treatments and as a method to diagnose cancer. Gas discharge visualization (GDV) is based on the electrical activity of human organisms and based on quantum information captured by this device.

The potential of the Orch OR model for cancer diagnosis has been demonstrated with the use of GDV technology that uses quantum information concepts. One of the first studies on cancer diagnostics using GDV was conducted by Horowitz et al. [14]. The material of the study was blood plasma samples of patients with oncological diseases of various organs, both with the absence and presence of distant metastases, in comparison with blood samples of healthy donors. The results showed that the values of the unloading parameters of the blood of cancer patients were significantly higher than those of healthy subjects for all samples. Chouhan et al. [15] studied the hands and fingers biograms of patients at different stages of cervical cancer and showed a significant difference from the imaging parameters of healthy patients. Saeidov [16] showed some correspondence between GDV parameters and tumors in different parts of the colon. In [17], patients with breast cancer were studied. At the Moscow State University, a lot of work has been done on patients with intestinal oncology [18, 19]. Similar results have been obtained at the Kuban University [20] using GDV monitoring in patients with squamous cell lung cancer, showed that the results of GDV assessment and monitoring of patient's functional status correlate with clinical, laboratory, and instrumental studies in 90 – 96% of cases.

6. CONCLUSION

The brain can take the information of all the cells and send them appropriate commands after analysis. So, the changes caused by cancer in the cells change the information stored in the brain. By correcting this information, the brain can send the necessary messages to the cells to return to normal.

Quantum information could potentially be collected with the use of medical biometrics based on GDV technology, as it has been used successfully in the past for the diagnosis of cancer.

This research explored the intersections of quantum mechanics, biology, and neuroscience to propose a quantum-biological mechanism for detecting and potentially reversing the effects of cancer through manipulating microtubular quantum states. The implications of the aforementioned hypotheses have far-reaching implications for revolutionizing our understanding of both consciousness and disease, opening new frontiers in the treatment of cancer and other medical conditions.

Author Contributions

- Conceptualization; Data curation; Formal analysis: J. Al-Karaki and M. A. Khan

- Validation; Writing - original draft: A. Sepehri and M. Fioranelli
- Writing - review editing: R. Valverde and C. Swanson

Conflicts of Interest

The authors declare that there are no conflicts of interest.

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Consent for publication

The authors grant full consent to the journal to publish this article.

Data Availability Statement

All data relevant to the study are included in the article.

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