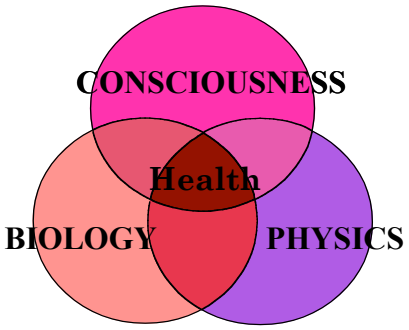

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The Ability of Aulterra's Neutralizer to Reverse the Harmful Effects of Electromagnetic Fields Generated from Cell Phones on Human DNA

Summary

Electromagnetic (EM) fields from cell phones were shown to have a statistically significant detrimental effect on the recovery of human DNA after heat shock. This effect was observed with cell phones (CP) on standby mode when they are emitting relatively weak EM fields and after only minutes of EM field exposure. The detrimental effect of EM energy from cell phones was completely neutralized when Aulterra's Neutralizer was attached to the back of the cell phone. In the presence of the Neutralizer there was 100% recovery of the DNA, as if no cell phone was present. This neutralizing effect appears to prevent initial damage to DNA immediately following EM field exposure.

Goals of this Research Project

- Demonstrate the short-term biological effects using an in-vitro DNA system of EM fields generated from cell phones.

- Evaluate the efficacy of Aulterra's neutralizer to reverse these effects.

The Experimental Approach

In these experiments the biological system being influenced by the EM fields from cell phones is purified human DNA suspended in a natural ionic environment. Previous studies demonstrated that the secondary structure of DNA is sensitive to classical (Semin, 1995) and non-classical (Rein, 1995) EM fields, thereby indicating that energy fields can influence the winding and unwinding of the two strands which make up the DNA helix and define its conformation.

Utilizing the well known fact that heat shock causes DNA strands to unwind (Marmur, 1961), the Quantum Biology Research Lab developed a sensitive assay which involves measuring the kinetics of rewinding following heat shock. It is well known that as the DNA cools, it gradually rewinds back into an intact double helix (Marmur, 1961). The rewinding process can be monitored by measuring the absorption of UV light as a function of the cooling temperature or

increasing time. As the DNA rewinds hydrogen bonds reform to connect the two strands. Thus the rate of DNA rewinding is directly related to the number of hydrogen bonds formed.

Sodium chloride was added to the deionized water in these experiments to simulate the natural ionic environment DNA normally exists in the human body. Iron was also added since a previous study which demonstrated that the sensitivity of DNA to UV light is enhanced in the presence of small amounts of iron (ferric ions) (Audic, 1993).

Three types of experiments were conducted in this study. The control experiments were done first in the presence of ambient EM fields, but in the absence of any man-made EM fields. In the electromagnetic experiments, DNA recovery was measured in the presence of EM fields from cell phones. The third set of experiments involved measuring DNA recovery in the presence of neutralized EM fields from cell phones containing the Neutralizer.

Experimental Methods

The specific protocol that was followed involved making a stock solution (0.4mg/ml) of human placental DNA (Sigma Chemical Co., St. Louis) in deionized water. The stock solution was diluted to 0.03mg/ml in 5mM NaCl containing 1-4 μM FeCl. A concentration of 1 μM FeCl was shown to be optimal and used in the final experiments. Immediately after heat treatment (80°C for four minutes) the DNA was gently transferred to a quartz cuvette and then placed in a cuvette holder inside the spectrophotometer. For EM field exposure a mobile Nokia cell phone (popular in the late 1990's) was plugged in, set on standby mode and placed face up on top of the cuvette. The CP chord was fed through a hole in the side of the spectrophotometer so the lid could still be closed during measurement of DNA rewinding. To neutralize the EM fields, the Aulterra Neutralizer was placed on the back of the cell phone directly below the antennae. The cell phone containing the Neutralizer was then placed face up on top of the cuvette. In these experiments normal and neutralized cell phones were identically placed on the cuvette immediately after heat treatment and remained there for the duration of the experiment. The same protocol was used for these two sets of experiments, as well as for controls, which were done in the absence of any cell phone. Controls were done first, followed by the CP treatment. Then two weeks time elapsed before beginning the neutralized CP experiments to dissipate the CP energy and avoid any conditioning effects (Tiller, 2004).

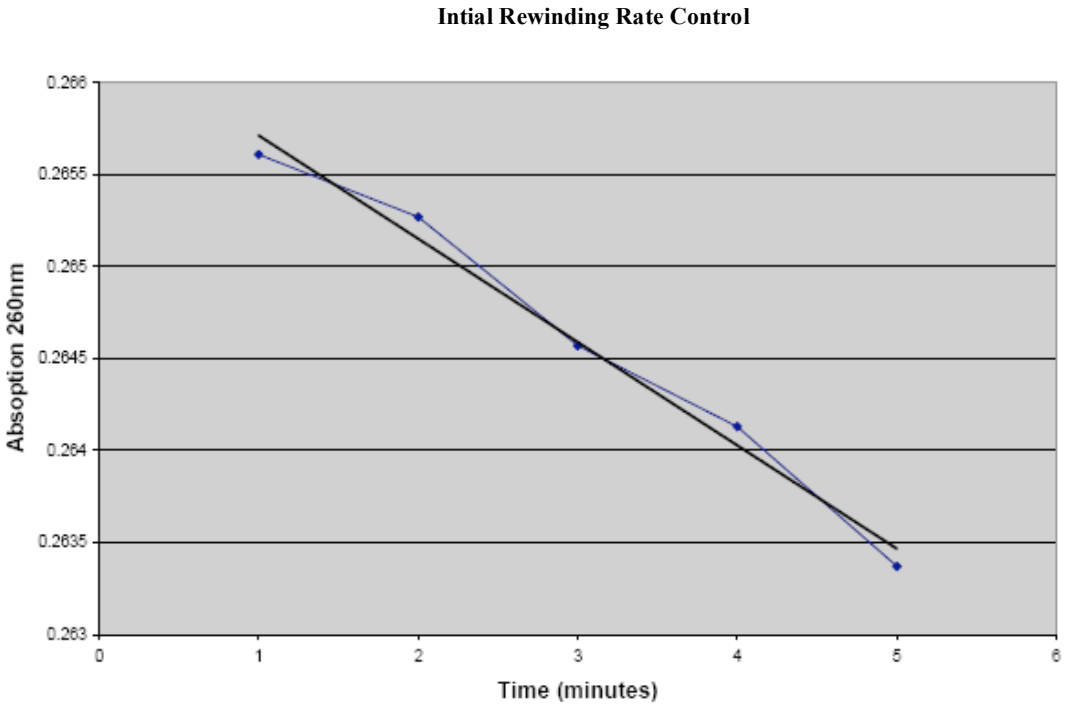
For all experiments, the conformation of DNA was measured with state-of-the art biochemical methodology using a UV-visible diode array spectrophotometer (Hewlett Packard 8451A) to quantify the amount of UV light absorbed (Thomas, 1995). Spectrophotometric measurements were taken every 10 seconds for 15 minutes and began immediately after the cell phones were placed on the cuvette and the lid closed. As the DNA rewinds the absorption of light gradually decreases. The initial slope of rewinding was calculated using IBM Excel software.

Results

A typical initial rewinding curve is shown in Figure 1. The light grey irregular line in this figure is a plot of the raw absorption data collected by the spectrophotometer as a function of time after heat shock. The solid black line is the computer generated best-fit calculation of the slope. The slope in this region corresponds to the initial recovery rate, classically used by biochemists in

studying enzyme kinetics. The initial slope was calculated for each separate experiment and then compared statistically using a two sample t-test (assuming equal variance). For statistical analyses a total of 6 control experiments, 8 EM experiments and 6 neutralized EM experiments were used.

Figure 1



A. Electromagnetic Fields from Cell Phones Effect DNA Recovery

The results in Table 1 demonstrate the effect of EM fields from cell phones on DNA rewinding after heat shock. In the absence of EM fields (control experiments) a negative slope for DNA rewinding is obtained. A less negative value for the slope reflects a slower rewinding rate. Therefore, in the absence of EM fields the average slope was -0.877 ± 0.041. In the presence of EM fields from the cell phone the slope had an average value of -0.687 ± 0.189. This indicates that the EM field from the cell phone produced a 22% slowing down of DNA rewinding. This detrimental effect of EM fields from the cell phone is highly significant compared to the untreated control ($p<0.02$).

Table 1

	Average Slope	SD	n	p (vs control)
Control	-0.877	0.041	6	
Cell Phone	-0.687	0.189	8	0.02
Cell Phone +Neutralizer	-0.872	0.063	6	NS

B. Cell Phone Damage Reversed with the Neutralizer

The cell phone containing the Neutralizer produced a similar effect on DNA rewinding as was observed in the controls. The average slope for these experiments was - 0.872 ± 0.063. This result is not significantly different than the control value indicating that the harmful effect of the EM field from the cell phone is completely neutralized by the presence of the Neutralizer.

Discussion

A previous study from the Quantum Biology Research Lab (Rein, 2000) demonstrated an unusual effect when a test tube containing human DNA in an aqueous solution was physically placed on top of the Aulterra powder, the active ingredient of the Neutralizer. The results demonstrated that the powder radiates an energy field which resonates with DNA producing an oscillatory winding and unwinding behavior in its secondary structure. Such behavior is consistent with the newly discovered phenomenon in biological systems referred to as macroscopic quantum coherence (Chudnovsky, 2000) and suggests that the energy radiating from the Aulterra powder is highly coherent (laser-like). Since the paramagnetic material in the powder will radiate classic (incoherent) EM energy, it is conceivable that the activation procedure in the manufacturing of the powder makes this intrinsic energy coherent. Alternatively, the unique mixture of minerals in the Aulterra powder may have intrinsic quantum properties, like other complex lattice structures which also exhibits quantum properties (Orrit, 1986).

The ability of Aulterra's powder to radiate quantum fields is related to its ability to store quantum information following activation. Quantum information storage is now a recognized technology in the computer industry which involves optical and magneto-optical storage. Information storage in computers and in Aulterra's products share a common mechanism, since they both require an external EM field to store the information and both result in the emission of a different type of EM field. Some variations of computer technology allow storage of information in three dimensional lattice structures (Mok, 1991), similar to Aulterra's mineral base. In other variations of computer technology, the emitted EM field can be a coherent laser (Reif, 1991). Furthermore, certain storage media exhibit unusual anomalous behavior referred to as space-inversion symmetry (ie. normal symmetry associated with magnetization of the optical materials is broken) (Pavlov, 1997). A similar situation also exists in phase conjugating systems, where a time-reversed longitudinal wave is emitted (Zozulya, 1994). According to quantum physics, both of these situations occur at the quantum level and are associated with the presence of quantum fields (Blumel, 1992). Therefore, if these established systems are capable of emitting a quantum field, Aulterra's technology may also do the same.

If the Aulterra powder radiates a highly coherent field, how could such a field neutralize the harmful, incoherent radiation emitted from a cell phone? Although traditional physics theory states that two force fields don't interact in space (they just pass through each other), recent experiments indicate that such interactions are possible. Working with two incoherent light sources, Comorosan demonstrated that one could modulate the action of the other to modulate a chemical reaction (Comorosan, 1990). In addition, Omura demonstrated that energy associated with a chemical enzyme inhibitor, in powder form, could produce a biological effect when the molecular energy was used to modulate a laser (Omura, 1994). In this sense the coherent laser

energy acted as a carrier for the molecular energy. These studies demonstrate that two energy fields can in fact interact. Furthermore, mixing incoherent and coherent energies can have differential effects on biological systems, since a critical ratio of incoherent to coherent energy is required to observe biological effects (Litovitz, 1994).

These studies offer an explanation for the ability of a coherent field generated from the Aulterra powder to neutralize the biological effects of incoherent energy from a cell phone. These studies also explain the results in the previous study by the Quantum Biology Research Lab (Rein, 2000). Coherent energy from the Aulterra powder could therefore neutralize the detrimental biological effect of the chemical energy associated with heavy metals. In these experiments, however, the biological system (DNA) was being influenced by both the energy from the chemical toxin and the chemical toxin itself. Nonethess, the Aulterra Neutralizer offered complete protection.

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