

ECTOPLASM: CELLULAR EFFECT

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ABSTRACT. Ectoplasm is considered a denser energy that is involved in parapsychic phenomena like “spiritual cures” and Parasurgery. Despite its applications, there are still few studies about ectoplasm. The purpose of this work was to assess the effect of ectoplasm on *Allium cepa* cells. The experiment, with researcher Waldo Vieira, M. D., a veteran ectoplast, consisted in exposing of roots germinated in water and a herbicide to ectoplasm, both in his physical presence and at distance. Results showed a decrease in growth in the groups: roots in water and roots in herbicide, directly exposed to the ectoplasm, compared with non-energized control groups. Microscopic analysis showed a wider cytoplasm area, with many vacuoles and microvacuoles. That effect suggests an expansion of the cytoplasm to compensate for the excess energy sent directly to the cell. Root growth decrease demonstrates that the ectoplasmic effect over the cells is possible both when near to and at a distance from the roots, especially when immersed in herbicide, which shows a possible neutralizing effect over the cells; and suggests, as a hypothesis, that the same can happen in human and tumor cells, whose growth is uncontrolled. The conclusion is that, for the first time, experimental data shows ectoplasm effects in vegetal cells, along with cytoplasmatic alterations caused by such energy. Other assessments are necessary to increase the knowledge about ectoplasm, which in the future could become a useful accessory therapeutic tool.

KEY-WORDS: Ectoplasm, Parasurgery, Microscopy, *Allium cepa*.

INTRODUCTION

Ectoplasm is the technique of imparting ectoplasm, a denser energy used in the cure of diseases that have various etiologies. It has been monitored by physicians and researchers during local and remote parasurgeries in several experiments carried out by this research team. Despite satisfactory results with many cures, there is no paper published exploring this concept. A few articles call ectoplasm spiritual energy, but these articles are influenced either by religiosity or Reiki. Inquiries about it are important as its action mechanism has not yet been unveiled.

The term “Ectoplasm” was proposed by physiology researcher and 1913 Nobel Prize winner Charles Richet (1850 - 1935). After experiments with ectoplasts, Richet observed that they imparted some substance, ectoplasm (VIEIRA, 1999). Many researchers, such as Alexander Aksakof, Alfred Russel Wallace, Gabriel Delanne, Paul Gibier, Schrenck-Notzing, William Crawford, and William Crookes (ROSSA, 2011), have since tried to investigate some aspects that could elucidate the phenomenon.

Those ectoplasmic substances are considered protoplasmatic and are more or less organized, with malleable, easily decomposable, physical characteristics, reaching several solidification degrees with unstable forms, like subtle smokes, stabs, spirals, filaments, cords, rigid or semi-rigid rays (ROSSA, 2011).

According to Munari (2008), ectoplasm’s histological examinations revealed leucocytes and adipocytes, whilst biochemical examinations showed that the ectoplasm is constituted by proteins, amino acids, water, lipids, and minerals. Ectoplasm released by an ectoplast is considered as consciential energy¹, denser than what hypothetically can be produced and released by any kind of cell (ROSSA, 2011).

Interest in energy research is growing, and several works have been published with different experimental models, like studies on enzymes, human blood cells, fungi and yeasts, cell regeneration in animals, goiter, tumor regression, and anesthesia recovery (GRAD, 1965; ONETTO & ELGUIN, 1966; SCHLITZ, 1982). In humans, research is turning toward cures of physical and psychological diseases. Besides other researches with plants (HODGES, 2011).

In this study, we used *Allium cepa* as test-material, introduced by Levan in 1938, which has been used ever since to evaluate and classify the toxicity of chemicals in the environment (LEME & MARIN-MORALES, 2009).

As a much used model-test today, *A. cepa* presents these characteristics that recommend its use: proliferation kinetics, quick root growth, numerous dividing cells, high tolerance to different cultivation conditions, all-year availability, easy handling, few and big chromosomes ($2n=16$) (FISKEJO, 1985; QUINZANI-JORDÃO, 1987).

A. cepa has been used as a model-test in several kinds of investigations, such as radiofrequency effects (TKALEC *et al*, 2009) and phosphinegas (YOUNIS *et al*, 1989) expositions, silver nanoparticles’ gen-toxicity (KUMARI *et al*, 2009), besides many other inquiries around environmental pollutants. An example is nuclear-pollution impact assessments in contaminated areas in Ukraine, especially Cesium-137 and Strontium pollution due to the Chernobyl accident (KOVALCHUCK *et al*, 1998).

¹ According to Waldo Vieira, immanent energy employed by the consciousness in thosenizations or general manifestations is called consciential energy.

Because of increasingly promising clinical outcomes with the use of ectoplasm and only a few experimental assessments until today, the present study aims to analyze the effect of ectoplasm on *A. Cepa*.

1. MATERIAL AND METHODS

The experiment was carried out in the International Association of Laboratorial Research into Ectoplasm and Parasurgery, Ectolab, located in the Centre for Advanced Studies of Conscientiology, CEAEC, in Iguassu Falls, PR, Brazil.

The ectoplasm used in the experiment was obtained by means of the ectoplasmy technique, consisting in the willed exteriorization of ectoplasm from the donor-ectoplast's chakras. In this experiment, the ectoplast, Waldo Vieira (1932-2015), exteriorized ectoplasm both directly from his palmochakras over *A. Cepa* plates and from around one meter away.

Before the experiment, the *A. cepa* (brand Baia Periforme, N-50) seeds were incubated in Petri dishes with mineral water. After a 2 cm-growth, the roots were separated and stored as follow: either in water or in Trifluralin herbicide. This herbicide is a known mutagenic substance, and was used with a concentration of 0.0019 ppm in the experiment. The experiment was performed in 3 different locations. In location 1 the roots were put in two plates, one with water and one with the herbicide, both were directly exposed to the ectoplasm. In location 2, both the roots in water and in herbicide were exposed to the ectoplasm at the distance of 1 meter. In location 3, roots in another room were in a plate with water (negative control) and in a plate with Trifluralin (positive control), all without exposure to ectoplasm.

Sample processing

After the experiment, the roots were left to germinate for 24 hours. Afterwards, they were severed at the apical zone and processed in Karnovsky fixation medium for 24 hours, followed by dehydration and Epon-resin inclusion for light – and electronic – transmission microscopy techniques.

Light microscopy

The roots, after their inclusion in the blocks, were sliced into 500-nanometer cuts and transferred to glass slides stained with toluidine blue; afterwards, the analysis was proceeded with scanning in an Olympus BX60 photomicroscope with Image-Pro-Plus Media Cybernetics scanner for Windows, facilities at the Microscopy Center of Prof. Dr. Celso Abbade Mourão (IBILCE-UNESP).

Quantitative and statistic analyses were performed by means of other microscopy techniques (data not shown, being prepared for publication).

3. RESULTS

Ectoplasm-effect on roots growth

In Fig. 1 we see diminished root-growth in both experimental groups: those directly exposed and those 1 meter away from the ectoplast (Figs. 1A – D), compared to the controls (Figs. 1E, F).

Structural analysis of the cells exposed to ectoplasm

Structural analysis of Group 1's cells (Fig. 2A) evidenced peripheric-nucleus cells with evident, constitutive euchromatin and heterochromatin. Around the entire cell-wall microvacuoles were observed in the cytoplasm and large vacuoles in most of the cytoplasm. Group 2 (Fig. 2B) presents rather flat cells, with central nuclei, whilst in others the nuclei were displaced, turned toward the cell-wall. Euchromatin and heterochromatin were well evident. Narrow cytoplasmic zones and vacuoles fulfilled most parts of the cytoplasm. Group 3 (Fig. 2C) showed rather flat cells with well evident euchromatin and heterochromatin in their nuclei. Along with larger cytoplasmic area around the nucleus, and large, well evident vacuoles per cell. Group 4 (Fig. 2D) presented rather flat cells with chromosomes in metaphase, wider cytoplasm around the nucleus, and many, large and small vacuoles. The negative control (Fig. 2E) presented large cells with peripheric, small nucleus, and cytoplasm constituted basically by one vacuole. The positive control with herbicide (Fig. 2F) showed dividing cells in metaphase, with the nucleus turned toward the cell's periphery, well evident euchromatin and heterochromatin, and cytoplasm with many microvacuoles and vacuoles.

4. DISCUSSION

Addressing the intangible nature of mind, body and spirit (MBS) makes empirical approaches and studies difficult. Nonetheless, researchers seek to assess and describe various MBS forms, including health models and research-supporting theories (KINNEY *et al.*, 2003; HEY *et al.*, 2006; CHAN *et al.*, 2012), from among alternative and complementary medicines² treatments, interventions and theories for the cure of several diseases (MARK & LYONS, 2014) including breast cancer (TARG & LEVINE, 2002; LIU *et al.*, 2008). From among the alternative medical tools, in this study we emphasize ectoplasmy.

Ectoplasmy has been used as alternative therapy by numerous people, including the parasurgeries performed in the Ectoplasmy Laboratory, in Iguassu

² According to the *National Center for Complementary and Integrative Health – NCCIH*, a *National Institutes of Health – NIC* organ, from the United States, complementary and integrative medicine is constituted by several medical and health-care systems, practices and products outside conventional medicine. Access in: 05.11.15. Available in: <https://nccih.nih.gov/health/integrative-health>

Falls, PR, Brazil. This alternative therapy has been performed by parapsychics, and its curative effects have been investigated by physicians and researchers all over the world (THRANE & COHEN, 2013). The subject is also progressing in Brazil, with elaboration of theses (MIWA, 2012) and dissertations (MONEZI, 2003) in USP and UNIFESP about the effects of Reiki and Johrei. Papers by UNICAMP researchers reporting Reiki practices in the Brazilian health system – SUS (Motta *et al.*, 2012) and ongoing research projects, like the energy emission called “passe” in Botucatu/Unesp Medicine College – FMB³ are examples of research about the subject. However, there are but few scientific works published using the term ectoplasm. Generally, such energy is often called spiritual energy and has been described within religious contexts, without scientific rigor to ascertain some plausible cure hypothesis. Thus, the publication of this research on ectoplasm in a non-religious context is intended to be an original contribution to the study of this kind of therapy, as well as the mind-body relationship.

The use of alternative therapies was expanded after the WHO approval in 2006 of complementary practices like acupuncture, homeopathy, and meditation (PINHEIRO, 2013).

There is more research about alternative therapeutic cures than many other complementary therapies. Over 150 experiments on energy have been conducted, for example, on human and other animals, besides plants, cells cultures, among others (BENOR, 2000). Around 60% of those studies have shown significant effects. Those evidences stress the healing power of alternative therapies. Energy is deliberately emitted by one or more healers with an intention, wish, meditation or prayer for one patient, who can either be in the presence of healers (untouched, at the distance several feet from the healer) or far away. There is no limit to this distance, according to the author: even thousands of miles do not seem to limit the healing effects (BENOR, 2000).

For skeptics, those cures are nothing more than some kind of suggestion. However, using non-human-responding models contradicts the belief that faith would be necessary for the cure to occur (BENOR, 1996), also discarding the placebo hypothesis.

Studies approaching the energy aspect in the cure of some diseases have also been made since some years ago, like in oncology (POTTER, 2013). Research shows that alternative therapy is efficacious against acute post-surgery pain (MEEHAN *et al.*, 1990; 1993; WIRTH *et al.*, 1993; KELLER & BZDEK, 1986), headaches (MILLER, 1982), hypertension (QUINN, 1989; GAGNE & TOYE, 1994), and anxiety (GAGNE & TOYE, 1994; HEIDT, 1981).

³ Accessed on 05.11.15. Available in: <http://g1.globo.com/sp/bauru-marilia/noticia/2015/03/medicos-pesquisam-influencia-do-passe-espirta-para-tratar-ansiedade.html>

Are the energies of ectoplasm effective near to or far from the target? That question directed the research toward the use of *A. cepa*. Toxicological studies using superior plants have demonstrated their high sensitivity: as test-organisms, they are excellent indicators of toxic effects (GRANT, 1994).

Energy effects from remote mental influence have been demonstrated in several controlled assessments of human beings, animals, plants, bacteria, and cells in laboratories. Even though remote mental influence over living organisms seems to contradict common sense about reality and laws of conventional science, several hypotheses have been proposed to explain the effects observed, including explanations from skeptics: such as signal transfer, interacting field, as well as hypotheses of multidimensional space/time and quantum mechanics. Because physics' progress continues to expand our understanding of reality, rational explanations for mind-distant matter interaction will appear; and, as history shows, supernatural events will evolve toward the paranormal, then normal, likewise the expanding scientific frontiers (BONILLA, 2013).

Morphologic analysis showed decreasing root growth in both experimental groups – directly exposed to the ectoplasm and from a distance – compared to the controls in water and with herbicide; only, in the proximal group, was that occurrence larger. This result suggest the action of ectoplasm over the growth of roots, decreasing *A. cepa* cells' growth and the plant's development (FERNANDES, 2002).

Other experiments, like those performed by Medeiros Junior (2000), energized seeds close by and from a distance in order to investigate the psychobioenergy effect, the author's term for the energies employed in his experiment on the development of chickpea seeds. The experiment showed that exposing seeds to an energized field decreased growth. The seeds far away, however, kept around 4.5 meters away from the energetic field, grew normally. In an experiment with bean seeds, both energized and control seeds kept close to the energy field grew and developed irregularly. The control group, kept more than 4 meters away from the irradiation point, underwent no influence, with rather regular development. A contrary effect was obtained in another experiment using green beans, where the energizers produced a considerably high germination effect. There are no detail in the paper about the intention of holding or stimulating growth (HODGES, 2011).

In an experimental model with barley seeds, spoiled with 1% saline solution, an energetic healing effect was accomplished when the energizer exteriorized energies while holding the saline solution before starting treatment of the seeds. Furthermore, he was able to positively influence the saline solution's retarding effect on seed development (HODGES, 2011).

A structural analysis of *A. cepa* has evidenced a larger cytoplasm with many vacuoles and adjacent microvacuoles on the cell wall in comparison to the controls.

The outcome suggests a cytoplasm-expanding effect, possibly to compensate for the excess of ectoplasmic energies directly released over the cell. That was the first demonstration of cellular changes in *A. cepa* exposed to faraway- and nearby ectoplasm. Nonetheless, the precise mechanism of action of the ectoplasm over the cells remains unknown. Changes in cell compartments, modifications to the masses of nucleus, cytoplasm, DNA, RNA, as well as the proteic synthesis, have also been observed in experiments with heavy metals and pea roots (*Pisum sativum L.*) (GABARA *et al.*, 1995).

The experiment demonstrated that ectoplasm clearly modifies the plant's cellular structure. Those changes can increase or decrease vegetal growth, possibly because of differences in the energizers' thosenic patterns. That means that the outcome will apparently be determined by the energizer/ectoplast.

The ectoplasm could modify cell structures in proximal and distal groups in the mutagenic herbicide, keeping them morphologically similar to the control group in water. We can thus reach a conclusion of a hypothetic neutralization of the herbicide's effects over the cells, comparatively assuming a possible therapeutic action from the soma's energy, although more studies are necessary, especially with human cells in the same place, which is being proposed for further investigations. Ectoplasmy research contributes new ideas, experiments and outcomes to the current knowledge. According to Yount (2013), traditional Chinese medicine should expand its healing concepts in order to incorporate the human energy field, which is the Foundation of the Eastern medical system. Knowledge about the existence and effect of the human energy field is the first step to understand our integral physiology. Besides, the systematic use of energy therapy, both close to and at a distance from the assisted, in the healing process can become an increasingly efficacious means, not only for the cure of diseases, but mainly for a prophylactic and holosomatic re-equilibrium.

CONCLUSION

The outcomes suggest an ectoplasmic effect over *Allium cepa* cells. This is due to several aspects observed in this experiment, such as: reduced growth in roots exposed to ectoplasm, an increase in the cytoplasm of the directly energized experimental group. A reduced growth in the experimental group in herbicide, although one lesser than in observed in the positive-control group, with a histology closer to negative control. This suggests that ill-altered cells can have their state reversed after exposure to ectoplasm. Hence the importance of future studies with normal and human tumor-cells.

Analysis of the experiments' outcomes, also considering other outcomes reported in the papers cited, suggests that higher or lower root growth, in addition

to structural changes in the cell, can be consciously or unconsciously determined by the ectoplasm's willpower applied to the energy exteriorized.

Ectoplasm can become a further therapeutic resource. Nonetheless, it is necessary to amplify knowledge about the action mechanisms of that energy, in order to use it systematically in the future as a therapeutic tool in clinical processes.

PROSPECTS

This research is intended to be extended in the future, with the following research targets:

1. To carry out a comparative analysis between other ectoplasts' cellular effects, in order to know if there is a pattern for the effects on a cell, or if there are variables arising from the ectoplasm from different ectoplasts;

2. To investigate the action of ectoplasm from different ectoplasts over normal and human tumor-cells' *in vitro* growth.

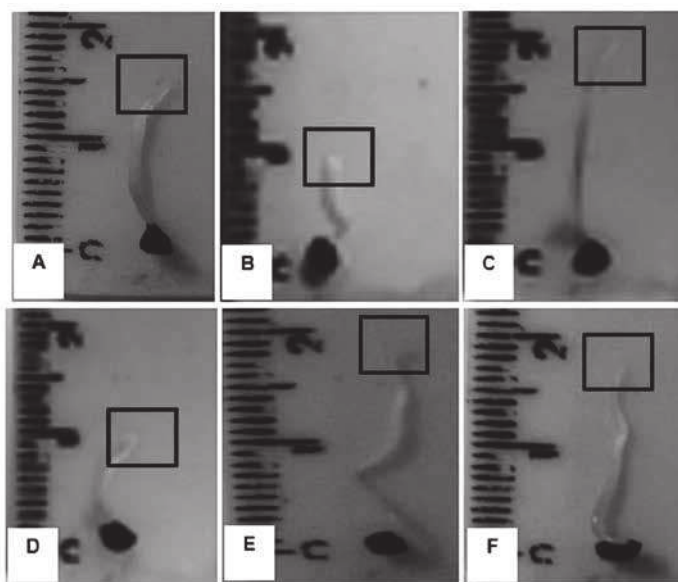


Figure 1: After-experiment root growth.

Group 1 roots, germinated in water and directly exposed to ectoplasm (Fig. 1A), group 2, germinated in herbicide and directly exposed to ectoplasm (Fig. 1B), and group 4, germinated in herbicide and at a distance from the source of the ectoplasm (Fig. 1D), presented reduced growth compared with the negative control group in water and the positive control group in herbicide. Whereas group 3 roots, germinated in water and at a distance from the ectoplasm (Fig. 1C), showed growth similar to roots in the negative control in water. Group E, negative control in water, and group F, positive control in herbicide. Approximated lengths: A = 1.5 cm; B = 1.0 cm; C = 2.0 cm; D = 1.0 cm; E = 2.1 cm; and F = 1.8 cm.

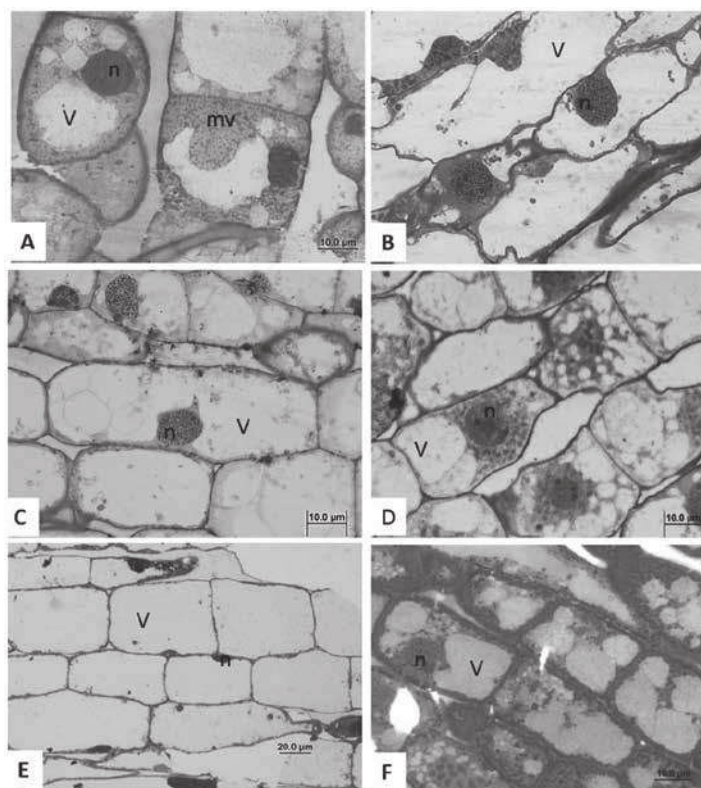


Figure 2: *Allium cepa* cells' structural analysis

Fig. 2A shows germinated-roots' cells in water, directly exposed to ectoplasm. Cells directly exposed to ectoplasm and germinated in herbicide (Fig. 2B), cells at a distance from the ectoplasm in water (Fig. 2C) and in herbicide (Fig. 2D). Negative controls in water (Fig. 2E), and positive in herbicide (Fig. 2F). N = nucleus, V = vacuole, mv = microvacuoles. A - D, F = 10 µm; E = 20 µm.

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