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MERIDIAN INSTITUTE NEWS

RESEARCHING THE SPIRIT-MIND-BODY CONNECTION

The Neuroprotective Properties of Gold

For several years we have been exploring the therapeutic potential of gold with regard to neuroprotective and healing properties (see Meridian Institute News Vol 5, No 2 and Vol 6, No 4). We now have some preliminary data on this topic from one of our basic science projects that is being conducted by researcher Dorothy B. Spangenberg, Ph.D., a faculty member of the Department of Pathology and Anatomy, Eastern Virginia Medical School in Norfolk, Virginia. To date, the study has been jointly funded by Meridian Institute and the A.R.E.

The project focuses on the use of tiny jellyfish (Aurelia) to study damage to neurons in order to develop strategies to prevent such damage. Neurons are cells which group together to form nerves in humans. Common biochemical pathways lead to neuron degeneration following head injuries, stroke, aging, and the development of neurodegenerative diseases, such as Parkinson's, Alzheimer's, and Multiple Sclerosis.

Glutamate, a natural component of neurons, when present in excess, can initiate degenerative changes which lead to the death of neurons in humans. This study involves testing the effects of glutamate, using monosodium glutamate, on the swimming and pulsing ability of jellyfish to determine whether, at higher dosages, it causes neuron degeneration in jellyfish as well.

Preliminary Findings

The first step was to establish the toxicity level of glutamate. By experimentation it was found that glutamate, given for only 1 hour, can cause total inhibition of swimming ability, a lower rate of pulsing, and pulsing abnormalities. In addition, glutamate causes some of the jellyfish to curl-up or spread out physically. These effects suggest that neurons of the neuromuscular system and sensory neurons (hair cells) found in gravity sensing structures, are damaged by the glutamate. Recovery to normal swimming and pulsing often does not occur in some jellyfish even after being removed from the glutamate for 48 hours.

The next step was to explore the potential role of gold chloride in preventing neuron damage in glutamate-treated jellyfish. After establishing the dosage tolerance of the jellyfish to gold chloride, a safe dosage was selected that was given to the jellyfish prior to, during, and after exposure to glutamate.

One of the principle findings was that gold treatment produced a neuroprotective effect. Simultaneous gold chloride and glutamate treatment in conjunction with post-treatment with gold chloride was the best method for overcoming swimming inhibition caused by glutamate. Gold must be present simultaneously with the glutamate as well as post-glutamate treatment for prevention and/or repair of the neuron damage. Jellyfish not given glutamate pulsed and swam well throughout the time of the experiments.

The Next Stage of Research

The next phase of this project will involve testing jellyfish given gold chloride pre-during-and post glutamate exposure to achieve ultimate gold protection for the jellyfish neurons. The jellyfish will be examined to determine whether their pulsing and swimming are normal as compared to non-treated controls.

One hypothesis used to explain neuron damage in humans following glutamate excess states that glutamate excess leads to the formation of oxidants, called reactive oxygen species (ROS) in neurons

which then leads to neuron death. To test this hypothesis, Dr. Spangenberg will determine whether jellyfish neurons form ROS following glutamate treatment. She will give jellyfish glutamate and search for ROS using fluorescent dyes and a special microscope, the confocal microscope. If she learns that ROS forms in glutamate-treated jellyfish, she will give other jellyfish gold chloride prior to and simultaneously with glutamate and determine whether gold chloride prevents the formation of ROS. She will also determine whether those organisms protected from ROS formation are able to pulse and swim normally.

In humans, antioxidants have been identified that protect against ROS damage. One of these is D-methionine, an amino acid found in various proteins in neurons. The research protocol will call for exposing jellyfish to this known antioxidant prior to and during exposure to glutamate to determine whether the jellyfish are protected from neuron damage as has been reported in mammals. If so, she will determine whether ROS formation is prevented in these jellyfish.

If she determines that the jellyfish respond to glutamate in a manner similar to the known human response, she will be able to use the jellyfish motility test system to screen therapeutic drugs and environmental chemicals to detect those which cause glutamate-associated neuron damage and to detect those which may prevent glutamate-associated damage. Such treatments might ultimately be used to treat humans with neurodegenerative diseases and neuron degeneration associated with aging, stroke, and head injuries.

LITERATURE

TOPICAL CASTOR OIL APPLICATIONS

While doing the literature review for our castor oil studies, we found the following two articles that relate to the external application of castor oil.

Researchers at the Department of Pharmacology, Menarini Ricerche Spa in Pomezia Roma, Italy noted that observational studies indicate that topical application of ricinoleic acid (RA), the main component of castor oil, exerts remarkable analgesic and anti-inflammatory effects. The pharmacology of RA has shown similarities between the effects of RA and those of the herb capsaicin, suggesting a potential interaction of this drug on sensory neuropeptide-mediated neurogenic inflammation. The study assessed RA anti-inflammatory activities in comparison with capsaicin in several models of acute and subchronic inflammation. The acute inflammation was induced by intradermal injection of carrageenan in the mouse or by histamine in the guinea-pig eyelid. Subchronic oedema was induced by complete Freund's adjuvant injection in the ventral right paw of mice.

It was found that the acute topical application of RA (0.9 mg/mouse) or capsaicin (0.09 mg/mouse) significantly increased the mouse paw oedema induced by carrageenan, while an 8-day repeated topical treatment with the same doses of both compounds resulted in a marked inhibition of carrageenan-induced paw oedema matched by a reduction in SP tissue levels. Similar effects were found against histamine-induced eyelid oedema in guinea-pigs after acute or repeated application of RA or capsaicin. RA and capsaicin given for 1-3 weeks reduced the established oedema induced by Freund's adjuvant, a subchronic model of inflammation, particularly if given by the intradermal route. Either in mouse paw or in guinea-pig eyelid, capsaicin but not RA by itself produced a slight hyperemia and activation of a behavioral response (e.g. scratching of the eyelids). On the basis of these results the researchers recognized RA as a new capsaicin-like, non-pungent anti-inflammatory agent suitable for peripheral application. This is a fascinating finding for those of us are interested in the anti-inflammatory effects of castor oil packs.

The other study we uncovered is more directly related to a Cayce-based application of castor oil for healing plantar warts. As you may recall, Edgar Cayce typically recommended applying a mixture of castor oil and baking soda to remove plantar warts. In an article that focused on the anti-inflammatory component associated with blackening and subsequent regression of plantar warts, a case study was discussed that involved a twelve-year-old girl who had four plantar warts on her left foot for three or four months. Unknown to the girl's mother, her grandmother had told the girl to rub castor oil onto

the warts. After applying the castor oil in this manner for approximately two months, "little black dots" appeared in the warts. The attending physician noted that the inflammatory process resembled the clinical picture of a cellulitis with ascending lymphangitis. He suspected that the inflammation was a healing response and did not treat it with antibiotics.

Thirteen days after the blackening of the warts was noticed, all of the warts had disappeared. So the question is whether the grandmother was an A.R.E. member who was aware of this Cayce remedy, or was the intuitive Cayce tapping into a traditional use for castor oil when he recommended it in his readings?

Meridian Institute will be completing another pilot study on castor oil within the next couple of months. Stay tuned for more on this intriguing therapy.

References

Vieira C, Evangelista S, Cirillo R, Lippi A, Maggi CA, Manzini S. Effect of ricinoleic acid in acute and subchronic experimental models of inflammation. *Mediators Inflamm* 2000;9(5):223-8

Berman A, Domnitz J.M., Winkelmann RK Plantar warts recently turned black. *Arch Dematol* 1982;118:47-51.

CONFERENCE

CAYCE HEALTH SYMPOSIUM

We want to remind you of the upcoming 8th Annual Cayce Health Symposium to be held at the A.R.E. Conference Center in Virginia Beach on September 12-14. Meridian Institute and the A.R.E. are co-sponsoring the three-day symposium for health care professionals, researchers, and other people with an interest in the Cayce health material. The A.R.E. is the Edgar Cayce organization, and sponsors programs on applications of the Cayce material.

The theme for this year's meeting is "Holistic Health of the Future." The conference will focus on clinical applications, home health applications, and research of the Edgar Cayce health information.

We invite interested speakers to submit a brief abstract of a talk or demonstration to Meridian Institute for consideration. See the Meridian Institute address and/or email information at the end of this newsletter. To register for the symposium, contact the A.R.E. Conference Registrar at 1-800-333-4499.

CALENDAR

September 12-14, 2003: 8th Annual Cayce Health Professionals Symposium, Virginia Beach.

MERIDIAN INSTITUTE NEEDS YOUR SUPPORT

We welcome your support and participation. Please contribute your knowledge, time and money to Meridian Institute's important research on the Edgar Cayce health readings. Meridian Institute is a non-profit organization. Your donations are tax-deductible.

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Statement of Purpose:

The goal of Meridian Institute is to expand the meeting ground between science and spirit by conducting and sponsoring clinical and basic science research. We intend to examine concepts about the body compatible with the premise that we are spiritual beings, and to approach the healing process from this perspective.

The body of information that will be researched and used as a guide for directing our work will be the Edgar Cayce health readings. Now over fifty years old, they provide a coherent and consistent physiology of how the body functions in health and disease. These health readings have never been fully researched in a modern, scientific manner that would provide data acceptable to all healthcare professionals and agencies.

It is our intention to conduct research in a manner acceptable to the modern healthcare community.

Priorities:

1.) To conduct and support research that examines physiological, anatomical, and health concepts which help unify the scientific and spiritual world views. This will involve sponsoring clinical and basic research, and engaging in "seed research" through conferences on specific topics and clinical projects incorporating a network of cooperating researchers and clinicians.

2.) To support, sponsor and directly present programs educating health professionals, scientists, and the public regarding these spirit-mind-body connections.

3.) To serve as an information network for researchers and clinicians exploring and applying these concepts and methods.

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