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MERIDIAN INSTITUTE NEWS

RESEARCHING THE SPIRIT-MIND-BODY CONNECTION

Castor Oil Research

The standard (although somewhat outdated) medical role of castor oil is that of a powerful laxative administered by mouth to cleanse the intestinal tract prior to medical procedures. Citing the severity of this application, Edgar Cayce seldom recommended the ingestion of castor oil. However, the Cayce readings often prescribed hot abdominal castor oil packs for a variety of conditions to improve eliminations and break up abdominal adhesions.

With the current high level of interest in transdermal patches to deliver drugs across the skin, the concept of external applications for delivery of medicinal substances is becoming widely accepted. With this in mind, Meridian Institute has begun a program to investigate how castor oil packs work and whether a more modern (i.e., less messy) mode of application is practical.

To this end, we have sought to identify a physiologic mechanism by which externally applied castor oil has a therapeutic effect. At a practical level, understanding how castor oil is metabolized in the body could help provide guidelines for basic parameters such as optimal heat, ideal session length, etc.

The study that we conducted to investigate the transdermal application of castor oil produced some puzzling results, as described below.

The Study

Although researchers have developed techniques for measuring the amount of castor oil absorbed into the system when it is taken orally, we have found no studies that have quantified the absorption levels for externally applied castor oil. Thus, we believe our study is the first attempt to measure the absorption of castor oil administered through the skin.

A previous study done by Hagenfeldt et al. (*Clinica Chimica Acta*, Vol. 161, 1986) provided a conceptual framework for our research design. In the Hagenfeldt et al. study, castor oil was administered orally to three healthy volunteers. Urine was collected for several hours and analyzed using capillary gas chromatography. The spectral analysis revealed elevated levels of the products of breakdown of castor oil by the liver (specific epoxydicarboxylic acids that are normally found in urine in very small amounts). Thus, the presence of high levels of these acids is evidence for absorption and metabolism of orally administered castor oil.

Castor oil packs are typically applied on the right side of the abdomen.

Using the data and conceptual model from the Hagenfeldt et al. study, we designed a study that included both oral and external (abdominal pack) administration of castor oil. By comparing the levels of the epoxydicarboxylic acids in the urine following external and oral applications, we hoped to be able to reliably quantify the level of absorption of the oil through the skin.

Three Meridian Institute volunteers collected urine samples before, during, and after a three-day series of abdominal castor oil packs. The next week the procedure was repeated. During a one-week wash out pe-

riod, urine samples were collected to determine a clearance rate for the acids. One of the subjects used only the castor oil pack (no heat), one subject used medium heat, and one subject used high heat. We hypothesized that the increase in heat would result in greater absorption and metabolism of the castor oil.

The second stage of the project involved oral administration of castor oil for comparison with the external application. Before and after urine samples were collected for oral administration of 2.5 cc of castor oil. A week later the procedure was repeated using 15 cc of castor oil.

Results

For the oral administration of castor oil in either of the two amounts, there was a high level of excretion of the epoxydicarboxylic acids in all the subjects. These results were similar to the Hagenfeldt et al. study.

In contrast, the level of urinary epoxydicarboxylic acids in the external application (abdominal pack) sessions did not vary greatly from the relatively low levels of these molecules normally present at baseline. The amount of heat used did not affect the outcome. If the castor oil was absorbed through the skin and metabolized in the system, it did not have the effect of increasing the excretion of the specific epoxydicarboxylic acids that we measured.

To confirm our findings, we repeated the study with some refinements. We used a different lab to assure that the results were not due to analytic techniques. The highest level heating pads were used for all sessions with the idea that this would increase absorption of the castor oil. Prior to and during the sessions, subjects avoided ingesting oils (such as olive oil) that might affect the endogenous level of urinary epoxydicarboxylic acids.

The findings of the repeated study were essentially the same as the first study. Castor oil taken orally significantly elevates the levels of urinary epoxydicarboxylic acids. External application has no noticeable effects on the urinary excretion of these markers.

Discussion

Considering how permeable the skin is to a wide range of substances, it would be truly amazing if no significant amounts of castor oil were absorbed after an hour and a half of contact with high heat. Yet we were unable to show this based on measuring the specific chemicals produced in the liver and excreted in the urine, which are very evident when castor oil is taken orally.

To help clarify our findings and give us clues as to how to proceed with the next phase of investigation, we contacted the International Castor Oil Association and several of its members requesting data or insights into the possible transdermal properties of castor oil. So far we have not received any useful suggestions for the further exploration of how castor oil is absorbed through the skin and metabolized in the system.

One possibility for further inquiry is to see if ricinoleic acid, the major component of castor oil, is found in the blood immediately after the application of a castor oil pack. If it is not, then apparently the castor oil does not cross the skin barrier.

If it is found in the blood, but the breakdown products are not found in the urine in appreciable amounts (as we have already determined), then it may be metabolized in a way not yet understood. This could offer significant opportunities for further research on the metabolism of castor oil and its relation to healing.

Dr. William McGarey has provided an alternative explanation for how castor oil is assimilated from an abdominal pack. In his book *The Oil That Heals*, McGarey rhetorically asks, "Is it really vibration, then, that carries the healing nature of castor oil into the body ...?" If this is the case, the question naturally arises as to how one measures the vibratory effects of a castor oil pack.

A formal report of the methods and data of the castor oil study discussed in this article can be found on the Meridian Institute website:

www.meridianinstitute.com/reports/castor2.html

LITERATURE

NERVE REGENERATION

Researchers at the Weizmann Institute in New York have discovered a special protein (importin beta) that could be the key to understanding peripheral nerve regeneration. Peripheral nerves, which are found outside the brain and spinal cord, are capable of regeneration, albeit slowly and poorly. The findings, published in the journal *Neuron* (Vol 40, 1095-1104), may lead to effective treatment of nerve damage that is currently irreversible in both the peripheral and central

nervous systems.

The importin beta protein is usually found near the nerve cell nucleus rather than along the long axon fiber that is especially vulnerable to injury. Importin beta and its sister molecule importin alpha facilitate the entry of chemicals into the nucleus.

This study is the first to recognize that importin beta is produced at the site of axon damage where it binds with importin alpha (which is commonly found along the axon) and other proteins. The protein complex moves along the axon fiber to the cell nucleus. The protein complex easily penetrates the nucleus membrane (due to the presence of importin alpha and beta). When the researchers blocked the entry of the protein complex into the nucleus, nerve cell regeneration was inhibited.

Understanding how the body transfers substances within the peripheral nervous system could lead to future technologies that can introduce therapeutic agents into the brain and spinal cord. Perhaps this sort of process is facilitated by the energy medicine devices recommended in the Cayce readings.

DEVICES FOR DIABETIC NEUROPATHY

Edgar Cayce's therapeutic recommendations often relied on physiotherapy devices utilizing vibration and various types of energy (including infrared light). Two new appliances based on similar technology have attracted attention for the treatment of diabetic neuropathy.

As diabetes progresses, nerve degeneration in the feet is a common complication that can lead to foot ulceration and, in severe cases, amputation. Two recent studies published in the journal *Diabetes Care* propose novel devices for addressing this serious problem.

The December 2003 issue featured an article titled "Enhancing Sensation in Diabetic Neuropathic Foot With Mechanical Noise." The study of 20 people with diabetes-related nerve damage, found that exposing patients' bare feet to specially designed vibrating insoles improved sensation in the sole of the foot.

The January 2004 issue includes a study documenting the efficacy of Anodyne Therapy System (ATS), a form of mild infrared therapy. The article titled "Restoration of Sensation, Reduced Pain, and Improved Balance in Subjects With Diabetic Peripheral Neuropathy" is based on results involving 27 diabetes patients who experienced restored sensation, reduced pain, and improved balance. The ATS is thought to increase blood flow by dilating blood vessels.

CALENDAR

September 17-19, 2004: 9th Annual Cayce Health 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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