

(Continued from page 5)

## Psychophysiologic Effects Of Electromagnetic Fields

Since all life on earth evolved under geomagnetic influences, it should come as no surprise that every cell, tissue, and organ in the body has certain electrical and magnetic characteristics. These are associated with, and quite essential for normal function and health. Indeed, it is their absence, as assessed by lack of ECG and EEG activity, that is the ultimate criterion for death. How electrical balance or homeostasis is maintained and regulated is not known. However, it is clear that infinitesimally weak electrical signals can exert significant biologic effects, ranging from influences on mood and behavior, to basic mechanisms governing cell growth. As we have suggested previously, it seems plausible that internally generated feeble forces may have similar effects. Thus, EEG waves may represent signals being sent to specialized receptor sites on cell walls, rather than merely reflecting the noise of the machinery of the brain. This has important implications for widely acknowledged but poorly understood phenomena such as the placebo effect, and the association of spontaneous remission in cancer with a strong faith.

It is important to emphasize that except for rare magnetic pole reversal, random lightning, and solar storms, the earth's electromagnetic environment has remained fairly constant for several hundred million years. All of this changed when Thomas Edison built the first electrical power generating station in New York only a century ago. Since then, there has been a progressive escalation of additional artificial intrusions, including gamma rays, X-rays, ultraviolet, infrared, microwave, and radio wave emanations. The possible adverse health effects of these and other man-made environmental pollutants, which may potentiate their damage, is currently the subject of heated debate.

It has been proposed that new disorders like chronic fatigue syndrome and fibromyalgia, and symptoms of pain, weakness and depression in other patients, may be due to depletion of magnetic energy in certain tissues, or interference with utilization. Support for this comes from anecdotal reports of marked improvement in energy levels, as

well as reduction of pain and inflammation, following electromagnetic field therapy. Studies in animals and children, as well as indisputable proof of accelerated healing in bone fractures and soft tissue injuries, confirm that these are not placebo effects.

The communication pathways that might mediate these effects have not yet been identified. The reported superior results obtained by application of electromagnetic stimuli at specific acupuncture sites are reminiscent of some ancient Oriental and Eastern precepts. Dr. Eric Leskowitz discussed the interfaces between our view of biomagnetic energy and anatomical design with traditional Chinese medicine, which emphasizes an appreciation of non-physical life energy or *Qi*, that encompasses both form and structure. He outlined the possible relationships between *Qi* (*chi*), *prana*, and *chakras*, with areas of structure and function upon which our biological model is based, particularly with respect to the endocrine system.

In a separate presentation, he discussed the use of the BioCircuit, which consists of copper handles held in both hands, connected by copper wires to copper screens placed over the thymus and solar plexus. This purportedly connects various body energy centers to create a natural circuit that "balances and realigns" natural energy flow in the body, and corrects any disturbances in polarity of the human bioelectric field, without the use of any external power source. Widely promoted in popular catalogues as a stress reduction aid, enthusiastic proponents claim that after just 30 minutes of application, they experience a feeling of deep relaxation and enlightenment, similar to that reported by accomplished meditators. Dr. Leskowitz, who is a physician in private practice in Massachusetts, explained how he has used the BioCircuit to enhance the efficacy of other forms of therapy, especially acupuncture.

In recent years, there has been a resurgence of interest in the clinical use of permanent magnets. These can be made of iron, alnico alloys, neodymium, and other rare earth metals. They are available in all sorts of shapes, sizes, strengths, and methods of application, including pillows, mattresses, seats, and back supports. Although some

(Continued on page 7)



*(Continued from page 6)*

claims of efficacy appear rather extravagant, results in children and animals again show that these are not all placebo responses. Further proof of this was provided by a paper demonstrating the effects of Tectonic magnets on neurotransmitter levels, and another providing vivid photographs of how they remarkably reduced post-operative inflammation and bruising within 24 hours. Professor Holger Hannemann from Switzerland indicated that magnetic fields in the body can fluctuate due to various stresses. These changes can be measured by sophisticated methods and instruments, and deficiencies or derangements can be corrected by applying a magnetic field of specific strength and duration at precise sites.

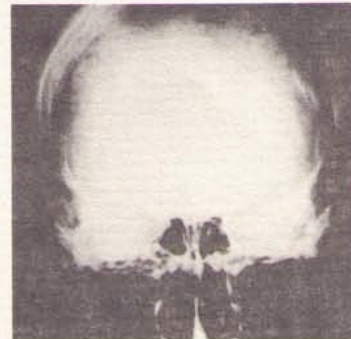
Dr. Konstantin V. Sudakov, President of the Regional International Stress Management Center of the USSR Academy of Medical Sciences, discussed his research on the influences of electromagnetic fields on emotional reactions in laboratory animals, indicating their possible clinical implications. Dr. Martin Blank of Columbia University, President-elect of the Bioelectromagnetic Society, reviewed his studies of heat shock proteins, which demonstrate that electromagnetic fields stimulate stress responses at a cellular level in a manner identical to that seen with other stressors, and this may have direct effects on DNA. Dr. Mario Martinez, a neuropsychologist from Nashville, stimulated a lively discussion period with his paper entitled "Stress, A Quantum Event With Chaotic Features". Since Newtonian physics can't explain many of the above observations, quantum physics and chaos theory are now required to incorporate new information, and to blend Eastern philosophy with Western mind/body research.

## Electromagnetic Therapy

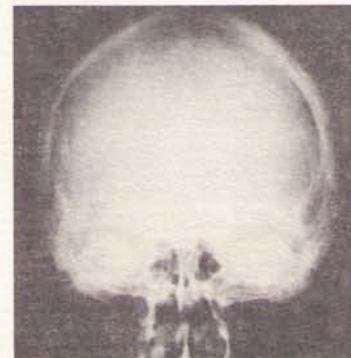
A major portion of the Congress was devoted to a discussion and demonstration of different electromagnetic devices. Professor Wolfgang Ludwig of Germany, the inventor of the Medicur, Medisend, and other instruments for relief of pain and stress, discussed the use of high frequency magnetic fields to produce analgesia in patients suffering from various types of headache and arthritis. Roger

Coghill, from the U.K., who had organized the First World Congress on Magnetotherapy under the auspices of The Royal Society of Medicine last June, discussed the clinical use of the Medicur unit for the treatment of pain. In another excellent paper, he reported on the results of a double blind study with the Max Stress Controller for the treatment of insomnia. Over 100,000 units have been sold to date. Dr. Eugene Yumatov, General Director of the Regional International Stress Management Center in Moscow, also reported on electromagnetic instrumentation he has developed for coping with problems of sleep and stress.

The most startling and stimulating presentation was by Dr. Demetrio Sodi Pallares from Mexico City, who demonstrated the remarkable results of his metabolic and magnetotherapy treatment of far advanced cancer and terminal heart disease. The X-ray below is from a 32 year old female with severe pain from extensive metastatic breast cancer destruction of the upper and lower extremities and skull.



She improved rapidly and remarkably with treatment, and now has no pain or other complaints, works full time as a biochemist, and leads a completely normal life. The X-ray below taken after 3 months of treatment shows complete healing of the parietal bone destruction previously seen.



*(Continued on page 8)*