

BIOENERGY

update

By Dr Bernard Brom

The Bioenergy Association of South Africa was initiated in 1992 in order to create an interest in the subject of Bioenergy. We will attempt in these reports, which will appear bimonthly in the Journal, to keep medical doctors updated on the latest development in the field of medical bioenergy.

In our previous Update, we discussed evidence for electromagnetism in man and in particular focused on the ECG, EEG, and magnetic resonance imaging from the brain. In this Update we will focus on further evidence for electromagnetism in man by looking at the research which has developed from investigation into acupuncture.

Since the early 20th century Western trained doctors in China have sought to explain how acupuncture achieves its affects. One of the very early pioneers in this work was Professor Han Jisheng of Beijing University who, in 1965, set up the Research Group for Acupuncture Analgesia; and within a year had shown that the brain was producing one or more substances that dramatically raised the person's pain threshold. Using rats and rabbits, he was the first to show that acupuncture also worked with these animals and that it was not a placebo response. This substance was eventually identified and named endorphin.

What is less well known is the enormous amount of

research that has taken a different direction to the above biochemical approach. This is not surprising because although the discovery of endorphins was interesting, it still left many unanswered questions. Why, for example, does acupuncture have long term effects and is even curative in many conditions? Although pain is relieved for the conditions treated, other pain receptors do not seem to lose their sensitivity as one would expect if the endogenous endorphins were still high.

Acupuncture is helpful in a variety of painful conditions from nerve pain eg trigeminal neuralgia or post herpetic neuralgia to muscles and ligament pain of both acute and chronic conditions. The pain may be localised or generalised but if the "appropriate" points are used then the pain disappears. The pain will tend to disappear in a step-like fashion ie the first treatment may relieve the pain for hours or days and after each treatment there is a longer improvement until after about 3 to 10 or 15 treatments the pain disappears and does not return again or returns only after some months.

Some points have only a localised action while others have generalised actions as well as localised actions. Some points have immune stimulating properties while others have sedating properties. Points far removed from the problem area may have specific effects on that area. For example, stomach 44 between the 2nd and 3rd metatarsal, may be an important point in the treatment of head or facial pain. Acupuncture points are also used to treat organ dysfunction in a specific way according to well founded laws of acupuncture. Thus acupuncture can be used to treat dysmenorrhoea or

colic but also conditions such as gastritis and peptic ulcer. Other conditions which can be treated with acupuncture include eczema, menopausal symptoms, anxiety, nausea of pregnancy – to name a few. Such a diversity of effects and treatment responses suggest perhaps a much more complicated underlying process involved. Although most Western medical professionals tend to accept a neuro-physiological and neuro-chemical explanation for its effectiveness, in China particularly, but also in Eastern Europe where a great deal of interesting research is being carried out, a bio-energetic explanation is popular and is being supported by a growing body of research work.

It should be pointed out that acupuncture is not just a question of stimulation as many may assume. Acupuncture may correct both a hyperactive or hypoactive state of the systems, and applying an electrical stimulus to the needles does not improve the effectiveness of acupuncture and in fact may have the opposite effect. What appears to be important is obtaining a needle sensation while twirling the needle rapidly. When this sensation is obtained then the needle is well placed to produce its curative effect and does not require further stimulation.

Acupuncture anaesthesia has unfortunately created a very erroneous viewpoint of acupuncture ie that its prime purpose is to dull pain sensation and that constant powerful stimulation is necessary. Acupuncture anaesthesia is a modern development and is not part of classic acupuncture.

The purpose of acupuncture was not to relieve pain but to encourage healing processes by adjusting the flow of Qi or energy. If this energetic adjustment was successful then energy would flow and healing processes would be set in motion resulting in the relief of pain or healing of the condition. The purpose was not to block pain pathways which is probably the mechanism involved in so-called acupuncture anaesthesia where a great deal of stimulation either by hand manipulation of the needle or through electrical stimulation is applied.

Many authors have, in recent times, attempted to throw scorn on the whole system of acupuncture. It is usually obvious to anyone well versed in the acupuncture experience that such a person is being

totally unreasonable and unscientific in suggesting that acupuncture is nonsense based on theory only, without having had any experience in the subject. Experience is something else and one very soon gains a tremendous respect for the subject.

The availability of electronic tools to measure the body's electrical and magnetic potentials has made possible an area of research which is very exciting and may yet prove that the ancient Chinese acupuncturists were correct in their deduction that the body was penetrated by Qi or energy, and that this had a controlling function throughout the entire body/mind system. It has been shown, for example, that acupuncture points have lower electrical impedance and a higher electrical conductivity than adjacent areas. This can be easily demonstrated using a sensitive Ohmmeter and Oscilloscope. Although other areas of the skin may show low impedance as well, there are characteristics which define acupuncture points and help to differentiate them from other non acupuncture low impedance points.

It has not been possible to identify acupuncture points anatomically so that we are left with the conclusion that they represent electrical windows on the body surface. While acupuncture points have been clearly established as a reality, the evidence of meridians is less clear.

Meridians are the energy pathways which link acupuncture points in clearly defined ways. The meridians flow up and down the body so that all four limbs and head and neck are linked together. If they were pulled out of the body they would form one continuous line. Of special interest to the acupuncturist is that the meridians also have branches which connect to the internal organs.

These internal pathways are described in detail in ancient text. So not only are there pathways on the surface but also within the body. It is because of these internal connections to the organs that acupuncture is able to relieve and cure so many diverse conditions.

Some French researchers, Dr Jean Claude Darras and Professor De Vernejoul¹, using radioactive-isotopes have been able to identify pathways by injecting the isotopes into acupuncture points and

found by using a gamma ray camera, that the radioactivity travelled along the acupuncture meridian with a velocity of 3-5cm/min. It was found to be slower in the case of diseased organs. They confirmed that the radio-isotopes did not diffuse appreciably if injected into the lymphatic system or the blood circulation. These pathways do not correlate with any other known anatomical structures.

There is other evidence for the existence of pathways. Rosenblatt² demonstrated that acute physiological change in heart rate was reflected in acute changes in electrical impedance at acupuncture heart points, while there was no change in the electrical impedance at non acupuncture points. Other investigators^{3,4,5} have also reported that there were definite changes in electrical impedance at various specific points on the ear or body associated with the presence of pathology of the internal organs. Cyril Smith⁶, a bioengineer from the University of Salford, England has suggested that the meridians may be electromagnetically rotating fields maintaining a pressure in the direction of the target organ.

Attempts have been made to correlate the neuro-anatomy of segmental innervation and the relationship between dermatomal areas and organs. Certainly there are many recognised neural pathways for referred pain such as heart pain referred down the right arm or the pain of sciatica.

Baldry⁷ in his useful book on trigger points acupuncture has attempted to show that muscle pain can be referred to distant areas and that by sticking needles into these tender areas one can cure the painful condition. He suggested that it was neural hyperactivity at these trigger points that was largely responsible for musculoskeletal pain. These trigger points were often some distance distal to the painful condition that the patient presented with.

All this information is useful and real but to the practitioner of acupuncture it is only part of the truth. Acupuncture is much more complicated than simply a question of de-sensitising trigger points. When one takes the whole package together rather than small isolated facts then one must recognise that any neuro-anatomical explanation would not be

enough to explain all the effects one sees in clinical practice.

Biochemistry is involved in some part of the process and that is why scientists, using biochemical tools, will often report biochemical changes. What, however, are the control mechanisms and how can a few well placed needles in the ear, head, foot or hand treat so many diverse conditions often far removed from the site of the problem?

The bio-energetic aspects cannot be entirely ignored. It would be equivalent to a scientist insisting that light has only wave properties because that is all his machine can measure and another insisting that light has only particle properties because that is all his machine can measure. Light has both properties and the scientists need to understand that both properties of light are true. Similarly, man is not merely biochemistry, but if one uses only biochemical tools to investigate man, then it would appear that man is only biochemistry. Using electrical and electronic equipment would open up another viewpoint.

It may be said that the electrical structure of the human body must have an architecture as precise and important as the biochemical structure. We are, after all, composed of electrical charged particles.

Inserting a needle into an acupuncture point will produce a very small electrical potential. It is highly likely that the body has extreme electrical sensitivity and is able to respond to these small potentials.

Dr. Robert Becker⁸ has investigated the "current of injury" produced in any injured tissue and found that this is not merely a leaking of charged ions from injured tissue but is in fact a direct electrical current (DC) which remains detectable until the tissue is healed.

We now know that electrical current may not only be ionic or metallic but also semiconducting allowing electrical currents to flow in a solid material. Albert SZent-Gyorgyi, who won a Nobel prize for his work on Oxidation, has suggested that semiconduction may play an important role in living cells. He felt that protein molecules had the right

structure to allow the flow of electrons in a semiconducting current over long distances without losing energy. In this way, information could be passed around the body without being stored in chemical bonds.

The purpose of these bio-energy articles is not to suggest that the missing link in medicine and in understanding man is "energy", but rather that without investigating man as also an energetic being, we can't possibly enlarge our perspective of health and disease. Using the limited biochemical/anatomical viewpoint only leads to a limited understanding of man.

References

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