

Acupuncture

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In the popular mind acupuncture conjures a picture of a patient riddled with pins; rather like a pin cushion but this great scientific discovery expounded by the Chinese philosophers thousands of years ago has gained scientific recognition among European scientists only in the last decade or so. Is it a hoax? Does it work?

Chi

The Chinese explanation for the success of acupuncture is that the insertion and movement of the needles in certain specified points in the body can affect the body's life giving energy, the *Chi*. The Chinese identify 1000 points in the skin divided into 12 systems or meridians, each meridian is linked with a major body organ. *Chi* flows in the meridians and is composed of two elements; the *Yin* and its opposite the *Yang*, symbolised as water (*Yin*) and fire (*Yang*). Dynamic balance of the body implies dynamic balance of *Yin* and *Yang*, - this is a state of good health. In illness the balance is disturbed and one of the elements predominates. To restore the balance it is necessary to resort to acupuncture. Also the partaking of certain foods rich in these elements can be of benefit. So the Chinese believe in *Yin* and *Yang* foods. Acupuncture is said to restore good health by correcting the *Yin Yang* imbalance.

Melzack Gate Theory of Pain

Western science has adopted a different approach to explain pain. The control of pain can only be achieved if its actions and transmission is known and understood. Melzack proposed the gate theory of pain control and relief after observing in the First World War injured soldiers still fighting, intent in their purpose and oblivious of their severe wounds, only to collapse at the end of the stressful situation. Melzack argued that the mind intent on a stressful situation shuts the gate to other incoming impulses, all the attention being diverted to one purpose. Pain transmission and its perception is subject to modification depending on presynaptic inhibition. Evoked potentials in the cerebral cortex are modified if two kinds of splanchnic stimuli are transmitted or if a somatic stimulus is superimposed on a splanchnic one.

Acupuncture

In acupuncture, modern science has finally discovered the connecting link between traditional folk medicine and real scientific medicine. The subject has now been upgraded from fringe medicine to a reputable medical practice with the appointment in Tennessee, America, of a professorship in Acupuncture. Using the latest biochemical methods Koesterlitz, working in Edinburgh, produced evidence of natural opiates - the endomorphines were discovered. These brain hormones act as neuromodulators lasting a few hours but modifying pain impulses.

Acupuncture modifies the action of cells of the caudate nucleus which is rich in opiate receptors and hence by increasing the release of endomorphines supplies the pain killing effect directly on the cells that appreciate pain, i.e. thalamic cells. Naloxone, a total inhibitor to opiates, reverses the pain relief obtained by acupuncture - a further proof that acupuncture acts centrally. As time passes so more natural opiates are being discovered. One hormone *Dynorphine* is 200 times as potent as morphine.

Anaesthetists have extended the use of the drug morphine by giving it in very small doses intrathecally and achieving good pain relief at the cost of the undesirable side effects of the opiate, such as vomiting and some respiratory depression.

The acupuncture points

Traditional Chinese acupuncture is guided by charts that show the path of the meridians for internal organs. Even psychosomatic illnesses are curable by acupuncture according to the old philosophers of China. So far modern science has failed to explain how a psychosomatic effect may be elicited by the use of the needles. But the evidence of the meridians has in some cases been proved ... today we call these points reference points. Every student knows that pain over the right scapula indicates biliary disease - the Boas sign. In fact the Chinese acupuncture meridian for the liver is in the interscapular region.

The use of embrocations, deep heat and the old system of cupping (*fintusi*) was all directed to the same purpose, stimulating the skin and thereby reaching an internal organ. If the condition is localised to the skin or to the muscles underneath then the existence of 'trigger points' as reported by Lewit is proved because

acupuncture on these points relieves the condition. Some acupuncturists use a machine to determine the site of these trigger points, as in these areas there is a change in potential due to cellular oedema. Other acupuncturists theorise that if the process involved is the building up centrally of a sufficient level of endorphines then any point that is stimulated can reproduce the same effect, so bypassing the study of trigger points.

Diagnosis in acupuncture

A complete physical examination including radiographic studies is an essential part of the therapy. Nobody should practice acupuncture who is not a physician alert to the syndromes of malignancy and to the diagnosis of bone lesions. Today the theory of the Chinese acupuncturist about the 12 pulses, 6 on the wrist and 6 on the meridians, is now forgotten.

The technique.

The needles used vary from one acupuncturist to another, but all claim good results. Some still use hand stimulation, rubbing the needle hub between thumb and index finger while most use electrostimulation. A current of a varying intensity is passed through the needles, the current being pulsed at 700 μ secs and a frequency of 2 Hertz. The variable intensity is determined by the patient's reaction. While on one hand it is a rule never to cause any pain during acupuncture yet it is essential to tell the patient to forbear any slight pain. The number of treatment sessions is much reduced if the patient's cooperation is obtained. The duration of each treatment session varies from five to twenty minutes, and the frequency of application is determined by the intensity of the pain.

The use of the Laser is a new approach updating this science to modern times. The laser beam is emitted from a pencil like probe attached to a generator with an output of 2mW. The probes, which operate in the infra-red spectrum, are held between six and twelve mm away from the skin, and simulate the twirling of the needle. The advantages of laser

acupuncture is that it is completely painless, and can scan a wider area than a needle technique can achieve. The drawback of this technique is that it cannot reach points which are deep down as any increase in intensity is accompanied by burning the skin. A latest approach is the use of ultrasound in acupuncture.

The Dangers

The main danger of acupuncture is that a malignant process is missed until too late. That is why we emphasised that the therapy should be administered by a medically qualified person who has investigated the patient's complaints thoroughly. The introduction of the needles calls for the utmost sterility as viral hepatitis and an occasional skin abscess has occurred.

Discussion.

The acceptance of acupuncture as a form of therapy is justified not only by tradition but by proved medical and scientific researches.

It may seem puzzling that noxious stimuli applied to the skin may relieve pain yet Hippocrates had an aphorism 'If the patient is subjected to two pains in different parts of the body simultaneously the stronger blunts the other.' The build up of endorphines in the brain by repeated sub-noxious stimuli is the best explanation given to explain the beneficial effect of acupuncture therapy.

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