

Original Article

Ear Acupuncture in European Traditional Medicine

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Auricular acupuncture is a diagnostic and treatment system based on normalizing the body's dysfunction through stimulation of definite points on the ear. Rudimentary forms of acupuncture which probably arose during the Stone Age have survived in many parts of the world right down to present day. It was used in the ancient Egypt, Rome, Greece and all the Mediterranean area. It is a microacupuncture technique similar to reflexology, and was first described in France in 1950 by Paul Nogier who is considered the Father of modern ear acupuncture. It was speculated that the technique works because groups of pluripotent cells contain information from the whole organism and create regional organization centers representing different parts of the body. Nevertheless stimulation of a reflex point in the ear seems relieve symptoms of distant pathologies. Modern research is confirming the efficacy of ear acupuncture for analgesia and anxiety related disease, while tobacco dependence and other substance abuse still need confirmation. Actually main methodological problems with auricular acupuncture are that exist too many maps with little agreement regarding point location in the ear, and that the correspondence or reflex systems does not correlated with modern knowledge of anatomy and physiology.

Keywords: auricolotherapy – ear acupuncture – Nogier – reflexology

What is Ear Acupuncture?

Auricular acupuncture is a diagnostic and treatment system based on normalizing the body's dysfunction through stimulation of points on the ear. Resulting amelioration of pain and illness is believed to be through the reticular formation and the sympathetic and parasympathetic nervous systems (1).

Ear acupuncture, is an acupuncture technique similar to reflexology, and is speculated that the technique works because groups of pluripotent cells contain information from the whole organism and create regional organization centers representing different parts of the body, through recruitment of more cortex cells dedicated to specific areas of the body. Thus stimulation of a reflex

point in the ear can relieve symptoms of distant pathology with a reliable duration.

Ancient History of Ear Acupuncture

Rudimentary forms of acupuncture which probably arose during the Stone Age have survived in many parts of the world right down to present day. Primitive sharp stones and bamboo were replaced by fish bones, bamboo clips and later various shapes of needles made of metal. When stones and arrows were the only tools of war, warriors wounded in war found that some diseases that affected them for many years were gone, as probably testify scars on the skin of the mummified body of Similaun, Italy. The Eskimos, are still using sharpened stones for treating their illness. The Bantus of South Africa scratch certain areas of their skin to allay the symptoms of many illnesses, while in Brazil there is a tribe whose method of treating illness is to shoot tiny arrows from a blowpipe to specific areas of the skin. The practice of cauterizing

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a part of the ear with a hot metal probe has also been reported among certain tribes in Arabia. This is probably a vestige of the acupuncture practiced in ancient Egypt and Saudi Arab.

The Ebers papyrus of 1550 B.C. (now in the British Museum) describes a system of channels and vessels in the body which approximates more closely to the Chinese system of channels than to any known system of blood vessels, lymph vessels or nerves. The Egyptologist Alexandre Varille (1909–1951) has documented that women in ancient Egypt who did not want any more children, had their external ear pricked with a needle or cauterized with heat. Gold earrings worn by Mediterranean sailors were not just used as decorations, but were said to improve vision. Hippocrates, the father of Greek medicine, reported that doctors made small openings in the veins situated behind the ear to facilitate ejaculation and reduce impotency problems. Cutting of veins situated behind the ear was also used to treat leg pain. The Greek physician Galen introduced Hippocratic medicine to the Roman empire in the second century CE, and commented on the healing value of scarification at the outer ear.

After the fall of Roman empire, the medical records of Egyptian, Greek and Roman medicine were best preserved in ancient Persia and Arabian world. Included in these Persian records were specific references to medical treatments for sciatic pains and sexual related disease produced by cauterization of the external ear. During Renaissance sporadic clinical reports in Europe describe the use of ear cauterizations to relieve leg pain. The Dutch East India Company actively engaged in trade with China from 1600s to 1800s, and its merchants brought Chinese acupuncture practices back to Europe. Doctors working with the company had become impressed by the effectiveness of needles and moxa, and cauterization of the external ear, or by cutting the veins behind the ears for relieving conditions such as sciatic pains and arthritis of the hip.

In 1637 probably for the first time in Europe was described by the Portuguese physician Zacutus Lusitanus the treatment of sciatic pain by cauterization of the ear after that bloodletting had failed. The Italian anatomist and surgeon Antonio Maria Valsalva (1666–1723), who made the first modern anatomical description of the ear; in 1717 published the *Aura Humanus Tractatus*, where he describes the treatment of toothache by scarification of antitragus. In 1810 Prof. Ignazio Colla of Parma, Italy, reported the observation of a man stung by a bee in the antehelix which resulted in dramatic relief of pain in the legs, and in the same year Dr Cecconi, another Italian physician, performed cauterization to help treatment of sciatic pain. In 1850 the French *Journal des connaissances medico-chirurgicales* reported 13 different cases of sciatic pain that had been treated by cauterization with a hot iron applied to the ear. Only one of the

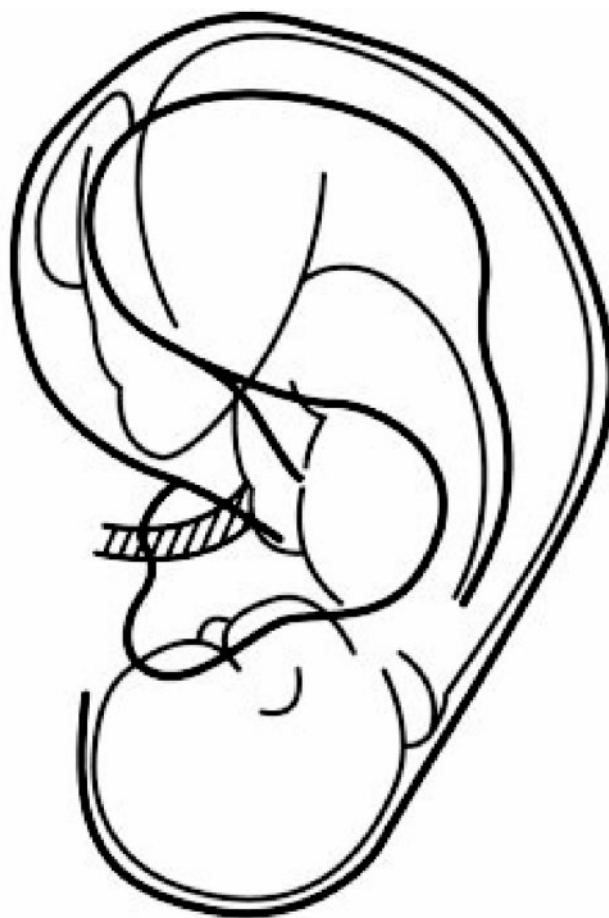


Figure 1. This drawing illustrates the concept of an inverted fetus map on the external ear.

patients did not improve completely. But it was not until a century later that Paul Nogier rediscovered this type of treatment.

Dr Paul Nogier: The Father of Ear Acupuncture

In 1957, Dr Paul Nogier a physician resident in Lyons, France, first presented his observations of the somatotopic correspondences of the ear. He is actually considered the Father of modern auricolotherapy. Dr Nogier (2) originated the concept of an inverted fetus map on the external ear (Fig. 1). He developed this theory after noticing that some patients attending his clinic had a small scar from a burn on part of their ear. On inquiring into this, he was told that a very small area of their ear had been cauterized by a certain Madame Barrin for treatment of sciatic pain—a treatment that they proved very rapid and effective. Later his first great insight was the recognition of the *homunculus*, ‘the man in the ear’, the representation and anatomical correlation of the inverted fetus in the ear. Points on the body, for example the knee, corresponded precisely

with the fetal representation of the knee in the auricle. Auriculotherapy following Nogier's theory uses the ear to help determine whether the right and left hemispheres of the brain are functioning as a dynamic whole, whether there are specific neurological, musculo-skeletal or organ systems that are in imbalance, and whether there are any blockages to treatment, such as scar tissue or emotional disorders and it should be a new diagnostic system too (2,3).

Then Dr Nogier noticed that there was a distinct change in the amplitude and dimension of the pulse when certain points on the auricle were stimulated. This occurs consistently and is both repeatable and measurable by modern equipment. Dr Nogier called it the Vascular Autonomic Sign (VAS) (3). Being able to detect the VAS on the radial pulse of the patients' left hand enables the practitioner to precisely determine the location of a point, whether there is a pathology in the region of the body that relates to specific points, and whether certain substances are indicated. Accurate employment of the VAS would be essential in diagnosis and treatment following the principles of Nogier's auricolomedicine.

Nogier collaborated with a group of medical colleagues who, in a spirit of cooperation and discovery, shared their experiences. One of those colleagues, Dr Jacques Niboyet, convinced Nogier to introduce his discoveries to the Congress of the Mediterranean Society of Acupuncture in February of 1956. Attending that Congress was Dr Gérard Bachmann who published Nogier's research, translated into German, in a Acupuncture journal in 1957. This journal had an international circulation and it was not long before Japanese acupuncturists became familiar with Nogier's reflex system.

The discovery of the system spread to China and led to intensive research by the Chinese medical authorities at a time of renewed interest in Traditional Chinese Medicine. After learning about the Nogier ear charts in 1958, a massive study was initiated by the Nanjing Army Ear Acupuncture research Team. This Chinese medical group verified the clinical effectiveness of the Nogier approach and assessed the conditions of over 2000 clinical patients, recording which ear points corresponded to specific diseases. The outcome of that research was very positive and resulted in the utilization of this therapy by the 'Barefoot Doctors' of the Cultural Revolution. In China was published an Ear Chart remarkably similar to that of Dr Nogier in 1958 (4).

Nogier acknowledged that Chinese traditional medicine had been using ear points for acupuncture prior to his discovery, but these had been considered empirical points for particular treatments and were not associated with a somatotopic representation of the *homunculus* in the ear. This oversight appears to have inhibited awareness of options laid open to recognize and treat other points

in the ear following an anatomical relationship to the points already known at the time.

Ear Acupuncture and Evidence Based Medicine

Later the American physician TD Oleson has published a very important paper that is a real milestone in ear acupuncture (5). To experimentally evaluate the claims by French and Chinese ear acupuncture that a somatotopic mapping of the body was represented in the external ear, 40 patients were examined to determine areas of their body where there was musculoskeletal pain. Each patient was draped with a sheet and a physician conducting the auricular diagnosis had no prior knowledge of the patient's medical condition, but simply examined the patient's ear for areas of elevated skin conductivity or tenderness. The concordance between the established medical diagnosis and the auricular diagnoses was 75.2% (5). These results thus supported the hypothesis that there is a somatotopic organization of the body represented upon the human auricle, but represented following definite areas not meridian lines or other energetic concepts.

In the last years modern clinical and basic research is confirming the efficacy of ear acupuncture mostly in the treatment of pain both acute and chronic (6–9), and of anxiety related disorders (10–12). While the treatment of irritable bowel syndrome, obesity, smoke cessation, alcohol withdrawal and other types of substance abuse disease is still waiting definitive confirmation (13–17). Basic research is trying to explain the effect of therapeutic reflexes induced by ear acupuncture so behavioral analgesia produced by auricular acupuncture can be blocked by the opiate antagonist naloxone, indicating the role of endorphinergic systems in understanding the underlying mechanisms of auriculotherapy analgesia (18); and ear stimulation in healthy persons is associated with changed activity in the sympathetic and parasympathetic nervous system depending on the site of stimulation and period of observation (19).

Auriculotherapy is a treatment diffusing in all over the world, and its patterns follow the principles of Chinese acupuncture, revised and updated, with Chinese maps of the ear; the principles of Paul Nogier and also the principles of reflexology basing on somatotopic maps that do not recognize energetic-based stimulation, while just the evocation of a reflex stimulating precise areas of the ear; moreover are used for stimulation of ear skin many different tools: finger acupressure, laser, electricity, different types of needles, magnetic balls, seeds.

Actually one of the many methodological problems with auricular acupuncture is that there are so many maps of the ear and little agreement exists regarding point location, lacking definitive anatomic study on ear

skin and its somatotopic correspondences. Another problem is that all correspondence or reflex systems do not correlate to the knowledge of anatomy and physiology based on the patterns of mainstream medicine (20).

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