

Basic research on acupuncture for primary headache

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Regarding the action mechanism of acupuncture for primary headache, a placebo effect might be the main contributor because the effect of real acupuncture is not superior compared to that of sham acupuncture. However, it is still controversial whether sham acupuncture can be a placebo or not.

We have attempted to clarify the action mechanism of acupuncture stimulation, and found that parameter in those with various diseases and symptoms get closer to those in healthy adults as the symptoms improve. These results indicate that acupuncture adjusts and maintains the homeostasis of the human body via the central nervous system.

In this paper, I introduce our results of acupuncture for primary headache, that is, tension-type headache and migraine.

1. Tension-type headache

We examined the mechanisms of the effect of acupuncture using plethysmography, electromyography, thermography, open loop video pupillography and $^{99m}\text{TcmO}_4$, and found that acupuncture stimulation relaxed the muscles and increased the blood flow of posterior cervical, suprascapular, and interscapular regions, leading to the improvement of the headache. We also found that the autonomic nervous system participates in the analgesic effect of acupuncture.

2. Migraine

We examined the effect of acupuncture using ASLMRI without contrast medium in the brain of patients with migraine, and found that acupuncture stimulation increased blood flow of the pars opercularis (inferior frontal gyrus), cingulate gyrus, insula, thalamus, and hypothalamus during and after the stimulation. The increase of blood flow in these areas in patients with migraine is higher and more persistent than that of healthy adults. In addition, the increased blood flow in the precuneus of medial portion of the parietal lobe was quite characteristic in patients with migraine.