

## Acupuncture anesthesia and analgesia for clinical acute pain in Japan

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Acupuncture anesthesia has been practiced in China since approximately 1960. Recently, numerous animal and clinical experiments were carried out in various parts of the world, leading to wide recognition of acupuncture as a viable modality for the relief of pain. This report introduces the fundamental research into acupuncture analgesia and the clinical research on acupuncture analgesia and anesthesia for acute pain that has been conducted in Japan.

**[1]**Acupuncture analgesia in healthy volunteers. Acupuncture, low frequency electrical acupuncture (LFEA), ear acupuncture, silver spike point (SSP) electro-therapy, and transcutaneous electrical nerve stimulation (TENS) increased the somatic pain threshold and deep pain threshold in healthy volunteers. Preadministration of D-phenylalanine (DPA), believed to suppress the activity of carboxypeptidase, was able to enhance the effects on acupuncture analgesia in healthy volunteers.

**[2]**Acupuncture analgesia and anesthesia for acute pain. (1) Acupuncture analgesia and individual variation. Preadministration of DPA enhanced the analgesic effects of acupuncture treatment for various types of pain. (2) Acupuncture anesthesia on surgical pain. Hyodo had experimented with 30 cases of acupuncture anesthesia. Kudoh et al., also concluded that LFEA increased the pain threshold of skin satisfactorily, but not enough for surgery in deep tissues. (3) Acupuncture analgesia on postoperative pain (POP). Acupuncture, SSP and TENS were shown to be effective for POP after abdominal and chest surgery. The relief of POP induced by acupuncture was due to modification of the excitability of the sympathetic nerves and a rise in skin temperature. This mechanism may be in addition to activation of the endogenous analgesic system. (4) Acupuncture analgesia during tooth extractions and following extraction of impacted wisdom teeth. LFEA and SSP were viable methods, not only for controlling pain during tooth extractions, but also for post-extraction pain relief after the removal of impacted wisdom teeth. There was also a significantly longer period of time prior to the occurrence of pain when using a combination of LFEA and local anesthesia in patients with difficult extractions that required gingival incisions. (5) Acupuncture analgesia on neuropathic pain. Acupuncture and LFEA was effective for postherpetic neuralgia (PHN) and produced protective benefits against PHN. Acupuncture treatment was also helpful for shoulder-hand syndrome (SHS) by improving peripheral blood flow.

Thus, in Japan, acupuncture is valuable as a method of anesthesia and analgesia for treating acute pain in certain cases of surgery, POP, neuropathic pain, tooth extractions and extraction of impacted wisdom teeth.

**Keywords:** acupuncture anesthesia and analgesia, acute pain, surgery, post-operative pain, neuropathic pain