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TENS, Acupuncture for Pain Relief in Childbirth

The application of transcutaneous electrical nerve stimulation (TENS) on specific acupuncture points may provide pain relief for labor and delivery, a new study suggests.

TENS is a non-invasive technique in which a low-voltage electrical current is delivered through wires from a small power unit to electrodes located on the skin. Electrodes are temporarily attached with paste in various patterns, depending on the specific condition and treatment goals. TENS is often used to treat pain, as an alternative or addition to pain medications. Therapy sessions may last from minutes to hours.

Researchers at Chang Gung Memorial Hospital and Chang Gung University College of Medicine in Taiwan investigated the efficacy and safety of TENS on specific acupuncture points for reducing pain in the first stage of labor.

In this double-blind, placebo-controlled trial, researchers randomly assigned healthy, full-term expecting women in the active phase of first-stage labor to TENS on four acupuncture points. Visual analogue scale (VAS) was used to assess pain before treatment and 30 and 60 minutes after treatment.

A questionnaire was given 24 hours after giving birth to evaluate the satisfaction of the pain relieving method and the willingness to have the same treatment again. Mode of delivery and neonatal effect were measured as secondary outcomes. One hundred women were eligible for analysis.

The study found that the TENS group experienced a greater reduction in pain than the placebo group. Willingness of using the same analgesic method for a future childbirth was also significantly different (TENS 96 percent vs placebo 66 percent). Operative delivery was increased in the TENS group (24 percent vs 8 percent), but the neonatal outcomes were not different.

Researchers concluded that the application of TENS on specific acupuncture points could be a non-invasive adjunct for pain relief in the first stage of labor.

Reference: 1) Chao AS, Chao A, Wang TH, et al. Pain relief by applying transcutaneous electrical nerve stimulation (TENS) on acupuncture points during the first stage of labor: a randomized double-blind placebo-controlled trial. *Pain*. 2007 Feb;127(3):214-20.

Pain relief by applying transcutaneous electrical nerve stimulation (TENS) on acupuncture points during the first stage of labor: a randomized double-blind placebo-controlled trial.

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Transcutaneous electrical nerve stimulation (TENS) is one of the non-pharmacological means of pain relief for labor and delivery. We aimed to investigate the efficacy and safety of TENS on specific acupuncture points for reducing pain in the first stage of labor. In this double-blind, placebo-controlled trial, we randomly assigned healthy full-term parturients in active phase of first-stage labor to either TENS on four acupuncture points (Hegu [Li 4] and Sanyinjiao [Sp 6]) (n=52) or the TENS placebo (n=53). Visual analogue scale (VAS) was used to assess pain before and 30 and 60 min after treatment. The primary outcome was the rate of VAS score decrease 3 in each group. A questionnaire was given at 24h post-partum to evaluate the satisfaction of pain relieving method and the willingness to have the same treatment again. Mode of delivery and neonatal effect were measured as secondary outcome. One hundred women were eligible for analysis. TENS group experienced VAS score reduction 3 significantly more common than the TENS placebo group (31/50 [62%] vs 7/50 [14%], $P<0.001$). Willingness of using the same analgesic method for a future childbirth was also significantly different (TENS: 48/50 [96%] vs TENS placebo: 33/50 [66%], $P<0.001$). Operative delivery was increased in the TENS group (12/50 [24%] vs 4/50 [8%], $P=0.05$), but the neonatal outcomes were not different. The application of TENS on specific acupuncture points could be a non-invasive adjunct for pain relief in the first stage of labor.

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