Lauretti GR, Mattos AL. Treatment of dysmenorrhoea with a new TENS device (TANYX®).

BACKGROUND: Primary dysmenorrhoea is a common gynaecological problem consisting of painful cramps accompanying menstruation, without any evident pathology to account for them, and it occurs in up to 50% of menstruating females and causes significant disruption in quality of life and absenteeism. The uterus is induced to contract frequently and dysrhythmically, with increased basal tone and increased active pressure[1]. Transcutaneous electrical nerve stimulation (TENS) is an established method for pain relief in dysmenorrhoea[2], which does not involve the use of medication and can be advantageous, as therapeutic for this the monthly cramp pain.
OBJECTIVES: The purpose of the study was to evaluate the effectiveness and safety of a new TENS device, (TANYX®).

METHODS: The local Ethics Committee approved the study, and informed consent was obtained. This prospective, double-blind randomized study evaluated the clinical utility of a new, very small and light, high frequency TENS device (TANYX®) in 40 women during the menstrual cycle. The TENS device was applied at the referral dermatomal skin for the uterus (lower pelvis)[3] during 30-min at 8-hour interval for up to 7 days. Patients were randomly divided into two groups: For the placebo group (PG), the device did not transmitted electrical stimulus, although it was externally similar to the active one. The other 20 patients applied the active TENS device (TG),which produced a mixed (85 Hz) frequency of stimulation: 1) conventional (not pulsated, constant), or 2) burst. Diclofenac (50 mg) up to three times daily was used as rescue analgesic if necessary for pain control. The efficacy measures were pain relief evaluated on a VAS scale and reduction in use of analgesic tablets.
MAIN RESULTS: Patients were demographically similar. Both groups used the TENS device for 3-5 days ($p>0.05$). The active TENS device induced a prompt onset (2-min) of pain relief in a strictly segmental manner, and there was a statistically significant drop in mean pain score from 7 to 2 points ($p <0.001$). the pain score was significantly reduced in the TG compared to the PG ($p < 0.01$). Concurrent use of analgesic tablets was also significantly reduced ($p<0.01$) and 9 women stopped taking analgesics while using the active device ($p <0.02$). The PG did not resulted in cramp pain relief, although 20% of patients consumed less rescue analgesic during the first three days of the study, however it was not statistically significant. All the participants subjectively found the device useful. There were no adverse events. On follow-up 3-months post study, 14/20 of the women were still using the active device regularly. No adverse effects were observed.

CONCLUSIONS: Treatment with TENS stimulation induced a prompt onset of pain relief was practically no need for rescue analgesics, without adverse effects. Possible mechanisms for the pain relief, include decreased uterine ischemia, opioid-sparing effect than either low (2-Hz) or high (100 Hz) frequencies alone[4], decrease of prostanoids and possibly eicosanoids released from the endometrium during menstruation[5], distraction or antidromic block of large-diameter nerve fibres[6] or glial activation[7]. This TENS device appears to be a useful treatment alternative for dysmenorrhoea.

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