

## Obstétrique - Divers

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### Effect of transcutaneous electrical nerve stimulation (TENS) procedure on postoperative pain after cesarean section delivery

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#### Position du problème et objectif(s) de l'étude:

The postoperative pain management after cesarean section delivery can be problematic. The choice of analgesics is limited, most of them can cause maternal adverse effects and can be transmitted to the newborn through breast milk. TENS is the most used non-pharmacological resource in physical therapy for handling chronic pain, it is safe, easily applied, and low-cost. Our study aims to determine the faisability and the efficiency of TENS in the management of acute pain after C-section delivery

#### Matériel et méthodes:

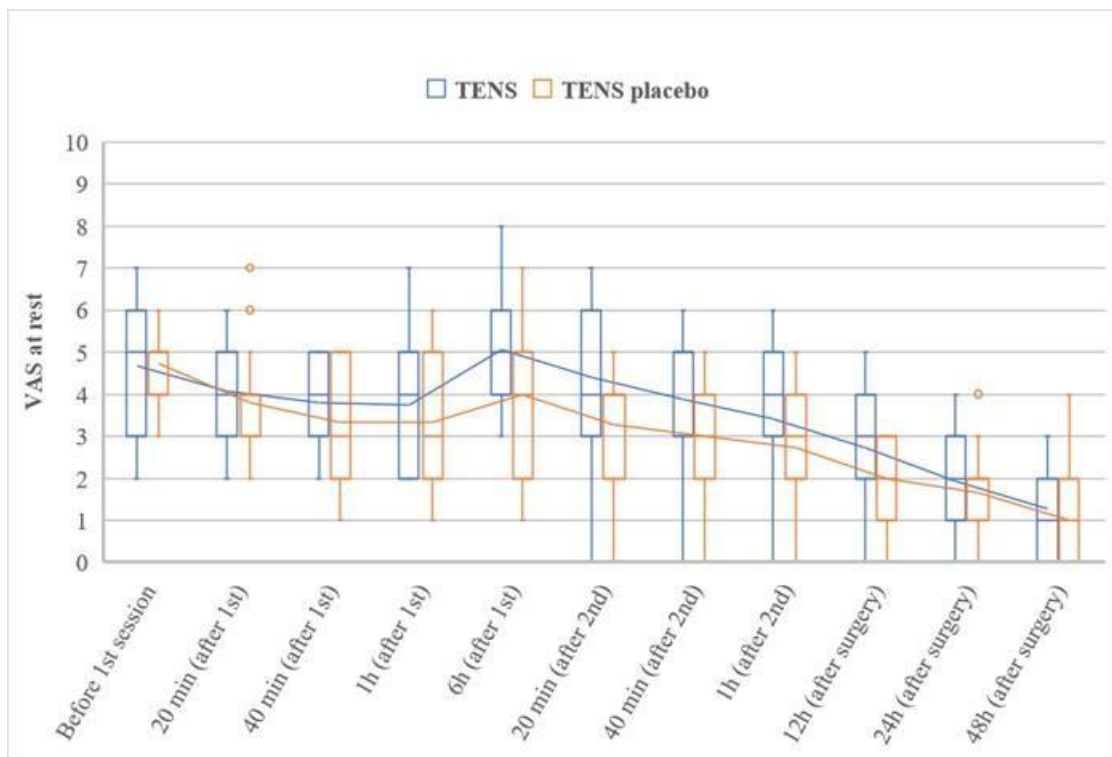
After written Ethics Committee approval, we initiated a prospective randomized double blind study including 120 parturients having C-section under spinal anesthesia. In this text we present a preliminary study including 30 parturients. After surgery, they received paracetamol and nonsteroidal anti-inflammatory drugs. TENS was applied twice on the first day for 30 minutes via electrodes placed above and below the incision. In TENS group, the intensity was increased until a maximum tolerable tingling sensation, in TENS-placebo group it was 0-0.5mA. Our primary outcome was pain intensity using Visual analogue Scale (VAS) at rest, after uterine globe examination, while walking at 20, 40, 60 minutes after each session, 12, 24, 48 hours after surgery. Secondary outcomes were blood pressure, heart rate, additional analgesics, pain complications and intestinal transit restoration. We used Chi-square and student-t tests in statistical analysis,  $p < 0.05$  was considered as statistically significant

#### Résultats & Discussion:

Our study showed that the intensity of pain at rest was reduced in the TENS group one hour after the first session and throughout the period following the second session ( $p : 0.024$  on H24 and  $p < 0.001$  on H48). No significant difference in pain intensity after the globe uterine examination and while walking between the two groups. The mean blood pressure and the systolic blood pressure was significantly lower in the TENS group after the second session on H1 ( $116.2 \pm 9.638$  vs  $107.07 \pm 10.215$  ;  $p = 0.018$ ) and on H12 ( $114.53 \pm 8.56$  vs  $108.13 \pm 6.664$  ;  $p = 0.03$ ). No significant difference in the heart rate was observed. The administration of additional analgesics was more frequent in the placebo TENS group without any significant difference. Only one case of complications due to postoperative pain was observed in a parturient from the placebo TENS group: bronchial congestion with ineffective cough. The median time to restore intestinal transit was shorter in the TENS group (18 hours vs 8 hours;  $p < 0.001$ )

#### Conclusion:

Based on our study findings, TENS represents a safe and effective non-pharmacological treatment option that can be used as an alternative approach for pain management in postpartum women following a C-section delivery.



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