A Comparison of the Therapeutic Effect of Tramadol and Meperidine for Treatment of Shivering after Spinal Anesthesia in Elective Caesarean Section

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ABSTRACT

Background: In most operating and recovery rooms, shivering is controlled by the use of humidifiers, warming blankets, and inhalation of humidified heated oxygen. However, pharmacological control is an effective alternative treatment modality. This study was designed to compare the efficacy of tramadol versus meperidine in the treatment of shivering after spinal anesthesia.

Methods: In a double-blind randomized clinical trial, we studied 70 obstetric patients with ASA class I or II who had shivering following spinal anesthesia (SA) with 0.5% bupivacaine. All patients were randomly allocated to one of the two groups receiving tramadol 0.5 mg/kg (group T, n = 35), or meperidine 0.5 mg/kg (group M, n = 35). The onset of cessation of shivering, the efficacy of agents for treatment of shivering, hemodynamic variables, sedation score, pruritus, nausea and vomiting were assessed.

Results: Shivering ceased after 2.57±2.26 and 6.24±4.76 minutes in group T and group M respectively (p=0. 03). The differences before and after injection of meperidine for the heart rate, respiratory rate and arterial oxygen saturation were significant (p<0.001). Nausea and vomiting occurred significantly more frequently in the meperidine group compared to the tramadol group (p<0.001).

Conclusion: Tramadol is a more effective agent than meperidine in the treatment of post spinal shivering, with lower early side effects in obstetric patients.

KEYWORDS

spinal anesthesia; tramadol; meperidine; shivering