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Comparative study between Dexmedetomidine and Ondansteron for prevention of post spinal shivering: A randomized controlled trial

Background:

Regional anesthesia could affect the homeostatic system functions resulting frequently in perioperative hypothermia and consequently shivering. The objective of this trial was to evaluate the efficacy of dexmedetomidine and ondansetron to reduce the incidence and severity of shivering after intrathecal blocks.

Methods:

This randomized placebo-controlled trial included 120 patients allocated equally in three groups. All patients were anesthetized by standard intrathecal blocks for surgical procedure at lower half of the body and received one of the study drugs intravenously (IV) according to the group assignments. Group S patients (placebo) were administered saline, Group O (ondansetron) were given 8 mg ondansetron, and Group D (dexmedetomidine) were given 1 μg/kg of dexmedetomidine. Shivering incidence and scores, sedation scores, core body temperature, hemodynamic variables, and incidence of complications (nausea, vomiting, hypotension, bradycardia, over-sedation, and desaturation) were recorded.

Results:

The incidence and 95% confidence interval (95% CI) of shivering in group S 57.5% (42.18–72.82%) was significantly higher than that of both group O 17.5% (5.73–29.27%), $P < 0.001$ and group D 27.5% (13.66–41.34%), $P = 0.012$. However, the difference in the incidence of shivering between group O and group D was comparable, $P = 0.425$. The sedation scores were significantly higher in group D than those of both group S and group O, $P < 0$.

001. Sedation scores between group S and group O were comparable, P = 0.19. Incidences of adverse effects were comparable between the three groups.

Conclusion:

Prophylactic administrations of dexmedetomidine or ondansetron efficiently decrease the incidence and severity of shivering after spinal anesthesia as compared to placebo without significant difference between their efficacies when compared to each other. Trial registration: Pan African Clinical Trial Registry (PACTR) under trial number (PACTR201710002706318). 18-10-2017. 'retrospectively registered'.