

Effect of Pre-operative Warming During Cesarean Section Under Spinal Anesthesia

Clinical study

AUTHORS

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CENTER AND COUNTRY

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TYPE OF STUDY

Prospective, randomized

STUDY OBJECTIVE

To assess the effect of preoperative warming during cesarean delivery under spinal anesthesia for prevention of hypothermia and shivering.

METHODS

Forty-five patients undergoing elective cesarean section were randomly assigned to three groups (WIV, FA and C). Group WIV received warmed intravenous fluid (40°C). In group FA, patients were actively warmed by forced air-warming. Group C was the control group. Forced air-warming and warmed fluid was maintained for the 15 minute preceding spinal anesthesia. Core temperature (tympanic membrane) and the skin temperature of arm and thigh were measured and shivering was graded simultaneously.

STUDY RESULTS

The core temperature at 45 minutes decreased less in Groups WIV and FA than Group C ($-0.5^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$ vs $-0.6^{\circ}\text{C} \pm 0.4^{\circ}\text{C}$ vs $-0.9^{\circ}\text{C} \pm 0.4^{\circ}\text{C}$, respectively; $P = 0.004$). The arm temperature at 15 minutes and 30 minutes exhibited a greater increase in Group FA than Group WIV and Group C ($P = 0.001$ and $P = 0.012$, respectively). The incidence of shivering was significantly less in Group FA and Group WIV than Group C (20%, 13.3%, and 53.3%, respectively; $P = 0.035$).

CONCLUSION

Preoperative forced air-warming and warmed fluid prevents hypothermia and shivering in patients undergoing elective cesarean delivery with spinal anesthesia.

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