

CLINICAL SUMMARY

Perioperative Hypothermia in Abdominal Surgeries

Preoperative combined with intraoperative skin-surface warming avoids hypothermia caused by general anesthesia and surgery

AUTHORS

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CENTER AND COUNTRY

NA

TYPE OF STUDY

Prospective, randomized, blind study

STUDY OBJECTIVE

To determine the impact of intraoperative skin-surface warming in two groups; one with and one without one hour of preoperative warming, in preventing intraoperative and postoperative hypothermia, shivering, and in enabling early tracheal extubation.

METHODS

30 ASA physical status I and II female patients were planned for elective abdominal surgery under general anesthesia. No warming measures were provided for 10 patients; another group of 10 patients were provided preoperative and intraoperative active warming, while 10 patients were only warmed intraoperatively.

STUDY RESULTS

Patients who received preoperative and intraoperative warming, maintained core temperatures significantly higher compared to other patients during the first two hours of anesthesia. All patients who received intraoperative warming were normothermic at the end of the surgery. Most of the patients who received pre and intraoperative warming or only intraoperative warming were extubated early, and none had shivering. On the contrary, 5 of the 10 unwarmed patients had shivering.

CONCLUSION

One hour of preoperative warming combined with intraoperative skin-surface warming, not simply intraoperative warming alone, avoided hypothermia caused by general anesthesia during the first two hours of surgery.

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YEAR OF PUBLICATION

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Infusion of warm fluid during abdominal surgery prevents hypothermia and postanaesthetic shivering

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CENTER AND COUNTRY

China

TYPE OF STUDY

Randomized, controlled

STUDY OBJECTIVE

The study determined the efficacy of intraoperative warm fluid infusion in maintaining normal core temperature.

METHODS

30 ASA physical status I or II adult patients undergoing abdominal surgery under general anesthesia were studied. OT temperature was maintained at 24°C using clean laminar flow and ambient relative humidity was maintained at 30%. Patients were in the supine position, covered with unwarmed cotton blankets and, no intraoperative warming was provided. The control group (n = 15), received fluids at room temperature; while in the test group (n = 15), they were infused at 37°C. Core temperature was measured at the tympanum. An independent observer evaluated shivering during recovery. The shivering was graded as: 0 = no shivering; 1 = mild fasciculations of face or neck; 2 = visible tremor involving more than one muscle group; 3 = gross muscular activity involving the entire body.

STUDY RESULTS

The control group, showed a decrease in core temperature to $35.5 \pm 0.3^\circ\text{C}$ in the first 3 hours, and then stabilized at the end of anesthesia. In control group, 8 patients shivered at grade ≥ 2 . The test group had a fall in core temperature for the first 60 min, but increased to $36.9 \pm 0.3^\circ\text{C}$ at the end of anesthesia. In test group, none of the patients reached grade ≥ 2 ($P < 0.01$).

CONCLUSION

Infusion of warm fluid is effective to keep patients nearly normothermic and prevent postanaesthetic shivering. It may provide an easy and effective method for perioperative hypothermia prevention.

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