

**Mouton WG, Bessell JR, Millard SH, Baxter PS, Maddern GJ. A randomized controlled trial assessing the benefit of humidified insufflation gas during laparoscopic surgery. *Surg Endosc* 1999; 13: 106-108**

LINK - <https://link.springer.com/article/10.1007/s004649900915>

Abstract

Background

We conducted a randomized controlled trial during laparoscopic cholecystectomy to determine the extent of heat preservation and postoperative pain reduction using humidified carbon dioxide (CO<sub>2</sub>) gas insufflation instead of standard dry insufflation gas.

Methods

Forty consecutive patients were randomized. Twenty patients received humidified CO<sub>2</sub>, and 20 control patients received standard CO<sub>2</sub> insufflation. A sample of 16 patients from each group was evaluated for postoperative pain levels.

Results

No adverse effects from the humidification of insufflated gas were observed. There was no significant difference in core body temperature between the two groups for this brief operation. Pain, as assessed by the Analogue Pain Score (APS) was significantly less for the group with humidified gas insufflation than for the control group at 6 h postoperatively as well as on the 1st, 2nd, and 3rd postoperative day and at follow-up 10 days after the operation. In the humidified group, the mean time to return to normal activities was significantly less—5.9 days, as compared to 10.9 days in the control group.

Conclusions

The use of humidified insufflation gas reduces postoperative pain following laparoscopic cholecystectomy, but except for these relatively brief procedures, the heat-preserving effect of humidified gas insufflation is not significant.