

IMPACT OF ACTIVE WARMING IN PERIOPERATIVE HEAT LOSS IN LAPAROSCOPIC CHOLECYSTECTOMY

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BACKGROUND

Perioperative heat loss (PHL) is common in patients undergoing surgical procedures, which is associated with many adverse outcomes.

Although active warming techniques (WT) are effective measures for PHL prevention, some studies conclude that short duration surgeries don't seem to benefit with active warming.

GOAL OF THE STUDY

Evaluate the effect of active warming in preventing perioperative heat loss during Elective Laparoscopic Cholecystectomy.

METHODS

- Prospective audit.
- Patients undergoing Elective Laparoscopic Cholecystectomy, at our institution, from September to December 2016.
- WT with forced-air warming blankets compared with the same procedures under no active warming technique (nWT), from a previous audit.
- Auricular temperature monitored at five moments:



Legend: PACU – Post Anesthetic Care Unit

- Gender, Age, American Society of Anaesthesia Physical Status (ASA), Body Mass Index (BMI), Type of anaesthesia, Duration of surgery length were collected.
- Descriptive statistical analysis and Qui Quadrado was runned ($p < 0,05$) (SPSS@v.22).
- Results presented as number, percentage, mean \pm standard deviation (SD) and median.

RESULTS

Table 1 – Temperature variation at different moments

HEAT LOSS	WT (n=27)	nWT (n=67)	p
$\Delta T3-T2$ (mean \pm SD)	-0,32 \pm 0,76	-0,43 \pm 0,42	0,34
$\Delta T5-T1$ (mean \pm SD)	-0,27 \pm 0,74	-0,53 \pm 0,48	0,03
$\Delta T5-T4$ (mean \pm SD)	0,57 \pm 0,69	0,35 \pm 0,45	0,51

Table 2 – Temperature variation T5-T1

	WT (n=27)	nWT (n=67)
< -0,5°C (n; [%])	8 [30%]	35 [52%]
\geq -0,5°C (n; [%])	18 [67%]	28 [42%]

Table 3 – Patients distribution by gender, age, ASA, IMC, type of anaesthesia and duration of surgery

	WT (n= 27)	nWT (n= 67)
Gender (M/F)	8 (30%) / 19 (70%)	14 (21%) / 53 (79%)
Age (median; [min-max])	62 [31-88]	58 [26-87]
ASA I/II/III/IV	2 (7%) / 16 (59%) / 8 (30%) / 1 (4%)	9 (13%) / 47 (70%) / 10 (15%) / 1 (1%)
BMI Kg/m ² (mean \pm SD)	26,67 \pm 5,30	28,25 \pm 4,39
Type of anaesthesia (GA)	27 (100%)	67 (100%)
Duration of surgery (min) (mean \pm SD)	48,48 \pm 24,10	48,85 \pm 31,12
Length of hospital stay (mean \pm SD)	3,35 \pm 4,58	3,10 \pm 4,66

NO STATISTICALLY SIGNIFICANT DIFFERENCES

Legend: BMI – body mass index; GA – General Anesthesia

CONCLUSION

In this audit, active warming for Elective Laparoscopic Cholecystectomy seems to influence the heat loss associated with surgical procedure, suggesting that forced-air warming may be beneficial. The findings underline the importance of developing new strategies and methods to minimize perioperative heat loss.

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