

Category : **Cardiovascular: Other**

**A249 - Body temperature and blood lactate production in coronary artery bypass grafting patients**

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**Introduction:**

Production of blood lactate during and after cardiopulmonary bypass (CABG) are associated with tissue hypoperfusion during hypothermia. The lungs were found to be a significant source of lactate. , and this pulmonary lactate flux was accentuated by CPB and hypotermia.

Objective of this study was to determine an association between blood and pulmonary lactate levels after CPB and temperature in first four postoperative hours in isolated coronary artery bypass grafting (CABG).

**Methods:**

This was prospective observational study in 20 patients, ASA III clasification, sheduled for elective CABG operation (one to four bypasses).

Lactate concentration was measured using a lactate analyser in simultaneously drawn arterial (A) and mixed venous (V) blood samples. At the 60-min interval four measurements per patient were taken and the temperature and the haemodynamic parameters were measured (heart rate, mean arterial pressure -MAP, pCO<sub>2</sub> difference) at the same time. Concomitantly, measurements of cardiac output were also performed.

Pulmonary lactate release was calculated as the product of transpulmonary A-V lactate and cardiac index. Statistical analysis was performed by one-way ANOVA with *post hoc* analysis employing two-tailed t-test with Bonferroni correction.

**Results:**

The mean cardiopulmonary bypass duration was 89.43± (6.69) min, and the aortic cross-clamping time was 63.33 ±20.73 min. The ejection fraction (EF) was 42.12±11,72. There were no significant differences among the haemodynamic paramethers.

Temperature values were rising across the four hour study period. The lactate values from venous and arterial blood, as well as there differences decrease significantly over the time (TABLE1).

Significances from table 1 \* P < 0.05vs1h), ¶P P < 0.05vs2h

**Conclusion:**

The pulmonary lactat production during and after CABG inversely correleted with the increase in body temperature.

**Table:**

1 h	2h	3h	4h
TEMP. 35.18 ± 0.70	35.67 ±0.56*	36.02 ± 0.4*	36.46 ± 0.59*¶

V. $2.65 \pm 1.13$	$2.17 \pm 1.08$	$1.62 \pm 0.78^*$	$1.48 \pm 0.61^*$
A. $2.31 \pm 1.02$	$1.76 \pm 0.99$	$1.5 \pm 0.81$	$1.40 \pm 0.59^*$
Lact(diff) $0.34 \pm 0.11$	$0.41 \pm 0.09$	$0.12 \pm 0.04^{*\dagger}$	$0.08 \pm 0.02^{*\dagger}$

*POSTOPERATIVE LACTATE LEVEL*