

P-326

Outcome and related parameters associated at maintenance of CI > 3 l/m/m² following surgery for congenital heart disease

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Objective: Describe our experience in cardiac output monitoring by transpulmonary thermodilution in postoperative congenital heart disease and the relationship of the data obtained with the evolution of patients

Methods: Prospective analytical study in children. Measurements by TPTD (PiCCO^R) were made at 1, 4, 8, 16 and 24 hours after cardiac surgery in PICU and results were registered and hidden from medical team on charge of patients. Measurement data are expressed as mean \pm SD. and patient data as median (range). Mann-Whitney test was used for comparison of patient's evolution.

Results: From 35 patients of 18 (3-144) months and 13 (3, 8-57) kg weigh, 17 maintained Cardiac Index (CI) > 3 l/m/m² in every control and had a better outcome with a shorter duration of mechanical ventilation 12 (3-48) vs 25 (6- 432) hours (p= 0.048) and hospitalization in PICU 3 (2-7) vs 6 (2-34) (p = 0.004). Parameters obtained in TPTD measurements in both groups are in the table.

	CI > 3 18 patients 85 measurements	CI < 3 17 patients 78 measurements	P
CI l/min m ²	4,23 \pm 0,92	3,28 \pm 0,82	0,000
SVI ml/m ²	35,14 \pm 7,90	25,75 \pm 7,93	0,000
GEDI ml/m ²	487 \pm 167	421 \pm 176	0,016
ELWI ml/Kg	17,33 \pm 9,76	21,09 \pm 12,35	0,034
PVPI	3,36 \pm 1,68	4,42 \pm 2,05	0,001
SVRI dyn*s*cm-5 *m ²	1353 \pm 326	1623 \pm 441	0,000
CPV mmHg	11,34 \pm 3,12	13,72 \pm 4,21	0,000
SvO ₂ %	78,14 \pm 10,34	71,51 \pm 10,45	0,000

Conclusions: Maintenance of CI > 3 l/min m² is related with a better outcome. We obtained a pattern of preload and afterload associated with CI maintenance. Classic parameters (CVP, SvO₂) held their value. Larger studies are needed to confirm these findings