

CONTINUOUS AND INTERMITTENT CARDIAC OUTPUT MEASUREMENT, PULMONARY ARTERY CATHETER VS LITHIUM DILUTION TECHNIQUE: AGREEMENT AT DIFFERENT LEVELS OF CARDIAC OUTPUT.

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The first objective of the study was to assess the level of agreement of intermittent cardiac output performed with the lithium dilution technique (CO_{Li}) to the intermittent pulmonary artery thermodilution technique (CO_{pa}) obtained with a pulmonary artery catheter (PAC, Edwards Lab, Irvine, CA USA) in liver transplanted patients. Secondly we assessed the level of agreement of continuous cardiac output ($PulseCO_{Li}$) obtained from the arterial pressure waveform, with the LiDCO System (LiDCO, Ltd, Cambridge, UK) to the CO_{pa} obtained with PAC. Additionally, to assess the influence of hemodynamic status on bias two groups were analyzed according to the level of cardiac output (CO): <8 and >8 litre min^{-1} .

Hemodynamic measurements were made in 10 liver transplanted patients. Data were collected after intensive care unit admission and every 8 hours until the 48th postoperative hour. Statistical analysis was performed using the method described by Bland and Altman. The influence of level of CO was analyzed by student t test. Statistical significance was considered to be at $p < 0.05$.

The bias was not significantly different between the two groups of CO analyzed (table 1).

Table 1. Mean difference between CO_{Li} - CO_{pa} , $PulseCO_{Li}$ - CO_{pa} (bias), lower and upper limits of agreement ($bias \pm 2SD$) together with 95% confidence intervals.

| | | bias (litre min^{-1}) | 95% Limits of Agreement |
|----------------------------|----------|--------------------------|-------------------------|
| CO_{Li} - CO_{pa} | Tot | 0.23 ± 1.54 | -1.31 to 1.77 |
| CO_{Li} - CO_{pa} | <8 | 0.56 ± 1.44 | -0.58 to 1.70 |
| CO_{Li} - CO_{pa} | ≥ 8 | 0.09 ± 1.60 | -1.51 to 1.69 |
| $PulseCO_{Li}$ - CO_{pa} | Tot | 0.49 ± 1.77 | -1.28 to 2.26 |
| $PulseCO_{Li}$ - CO_{pa} | <8 | 0.85 ± 1.43 | -0.58 to 2.28 |
| $PulseCO_{Li}$ - CO_{pa} | ≥ 8 | 0.36 ± 1.86 | -1.50 to 2.22 |

Intermittent and continuous CO obtained with LiDCO System provided comparable measurement at different level of cardiac output in liver transplanted population even if larger population studies are needed to confirm these preliminary data.

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