

A comparison of lithium dilution cardiac output measurements made using central and antecubital venous injection of lithium chloride

Jonas MM, Kelly FE, Linton RA, Band DM, O'Brien TK, Linton NW. *J Clin Monit Comput.* 1999 Dec;15(7-8):525-8. doi: 10.1023/a:1009914714769.

Objective: We have previously described an indicator dilution technique of measuring cardiac output in which lithium chloride is injected as a bolus via a central venous catheter and cardiac output derived from the arterial lithium dilution curve recorded from a lithium-selective electrode, which we have developed for this purpose. It would be an advantage if the lithium could be injected via the basilic vein (in the antecubital fossa) in those patients who do not need central venous catheterisation for other reasons. We have therefore compared cardiac output measurements made using these two routes of lithium chloride administration.

Methods: Lithium dilution cardiac output was measured 10 times in each of 10 patients, injecting the lithium chloride alternately via the basilic or central venous catheter.

Results: The mean difference was $0.8 \pm 5.2\%$ (SD) (range -8.5 to +7.0%) over a range of cardiac output of 4.5-13 l/min.

Conclusions: Injection of lithium chloride via the basilic vein in the antecubital fossa allows accurate lithium dilution cardiac output measurements to be made in patients who do not have central venous catheters in place.