Our results indicated that the arrival times of a drug at the right and left ventricles are significantly lower with HIO than with BIV in an adult cardiac arrest model” Cho et al (2018).

Abstract:

AIM: The present study aimed to compare the ventricular enhancement time between humeral intraosseous access (HIO) and brachial intravenous access (BIV) during cardiopulmonary resuscitation (CPR) in adult humans. To our knowledge, this is the first such study during CPR in adult humans.

METHODS: This prospective single-centre observational cohort study assessed the medical records of patients who underwent CPR between January 2018 and March 2018. The primary endpoints were the left and right ventricular enhancement (LVE and RVE, respectively) times after administration of a microbubble contrast agent via HIO or BIV. Continuous variables are reported as means and standard deviations depending on normal distribution, while categorical variables are reported as frequencies and percentages. The paired t-test and analysis of variance were used to compare HIO and BIV. Differences were considered significant at a P-value <0.05.

RESULTS: The study included 10 patients. The HIO time (15.60 ± 6.45 s) was significantly lower than the BIV time (20.80 ± 7.05 s; P = 0.009). The RVE time was significantly lower with HIO (5.60 ± 1.71 s) than with BIV (15.40 ± 3.24 s; P < 0.001). Additionally, the LVE time was
significantly lower with HIO (120.20 ± 4.18 s) than with BIV (132.00 ± 3.09 s; P < 0.001).

CONCLUSION: Our results indicated that the arrival times of a drug at the right and left ventricles are significantly lower with HIO than with BIV in an adult cardiac arrest model.

Reference:


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