METABOLIC CHANGES DURING BASIC LIFE SUPPORT AFTER CARDIAC ARREST

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BACKGROUND: Metabolic alterations occur after cardiac arrest (CA) but their time course remains unclear. We aimed to study metabolic changes during basic life support (BLS) using widely-used Arterial Blood Gas (ABG) parameters in a translational model of CA and BLS.

METHODS: Six Landrace x Large-white female pigs underwent an 8-min period of ventricular fibrillation (VF) followed by BLS. Chest compressions were provided by machine. Pa/FiO₂, PaCO₂, K⁺, pH and serum lactate were measured from arterial blood samples and collected at baseline, after 8-min cardiac arrest and at 15 and 30 min of BLS (**Figure 1**).

RESULTS: The results were expressed as mean and confidence interval was constructed at a confidence level of 68,3%. (**Table1**, **Figure 2**).

CONCLUSIONS: In this resuscitation model of CA with BLS, an early decrease of Pa/FiO₂ and pH were observed from 8 min post-CA. PaCO₂ presented a peak at 15 min-postCA. Parameters as serum lactate and serum Potassium were increasing during BLS period.

Figure 1: Study design.

	Baseline	8 min post-CA	15 min post-CA	30 min post-CA
Pa/FiO ₂	μ 668; CI (341; 995)	μ 293; CI (175; 411)	μ 264; CI (218; 310)	μ 282; CI (245; 319)
PaCO ₂	μ 35,17; CI (30,56; 39,78)	μ 34,52; CI (29,16; 39,88)	μ 53,57 ; CI (41,00; 66,14)	μ 41,07; CI (33,28; 48,86)
K ⁺	μ 4,19; CI (3,70; 4,68)	μ ; 4,21; CI (3,70; 4,72)	μ 6,56; CI (5,26; 7,86)	μ 8,12; CI (7,16; 9,08)
pH	μ 7,51; CI (7,45; 7,57)	μ 7,49; CI (7,43; 7,55)	μ 7,16; CI (7,08; 7,24)	μ 7,14; CI (7,06; 7,22)
Serum lactate	μ 14,6; CI (4,9; 24,3)	μ 22,5; CI (14,5; 30,5)	μ 74,0; CI (69,4; 78,6)	μ 93,4; CI (86,0; 100,8)

Table 1: Data from arterial blood samples. μ: mean; The confidence intervals are constructed at a confidence level of 68,3%

Figure 2: Box plots of: Pa/FiO₂, PaCO₂, serum lactate, K⁺, pH. This parameter were acquired from arterial blood samples and collected at baseline, after 8-min cardiac arrest and at 15 and 30 min of Basic life support.