

Behavior of bicarbonate ion between capillary blood and saliva during acute exercise #3

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This study includes the monitoring of the behavior of the bicarbonate ions concentration in the capillary blood and in saliva, with the main objective of establishing reliable parameters of the relationship of this variable between these two fluid compartments. The tests were conducted under a modified Balk protocol in the cycloergometer with progressively increasing load of 50 to 50 watts and measurement of bicarbonate ion was held in a gas analyzer ABL 800 FLEX Radiometer, assigned by UNIMED of São Carlos. It was necessary to develop 70 glass capillary 110 μ L and one adapter to collect saliva, manufactured in PVC. The volunteers (n=10) were selected athletes of the city of São Carlos and local students, all healthy and not using any type of drug, with an average age of 24 ± 4 years. Statistical analysis was done through the InStat software, using the comparison of the average concentration of bicarbonate ion between blood capillary and saliva at each stage (1-7^o), getting a p-value <0.0001 and significant confidence interval of 0.95. Average concentration of bicarbonate were: Blood/Saliva: (1) 23.5 /3.2 - (2) 23.1/2.9 - (3) 21.4/4.0 - (4) 19.7/3.2 - (5) 15.9/2.9 - (6) 19.5/4.0 - (7) 16.6/4.1 mmol/L. The results allowed the establishment of a correlation between the fluids and demonstrates the effectiveness of the proposed method.

Key words: human; saliva; bicarbonate ion; capillary blood; acute exercise.