

Category : **Electrolyte disorders**

A288 - Correlation and concordance of the excess base with the hydrogen ion delta in critically patients from a reference center in colombia

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Introduction:

The hydrogen ion delta was described for quantifying the degree of acidosis or alkalosis originated in determinants other than CO₂, that is, the metabolic component of the acid-base state. The indicator has not been compared with the excess base, for which the present study was developed. the objective of this study is determine the degree of correlation between the base excess and the delta of hydrogen ions and the concordance for the diagnosis of acid-base disorders of metabolic origin [1].

Methods:

100 hospitalized patients from intensive care units of Colombian, adult patients with medical or surgical pathologies were included. All patients underwent arterial and venous blood gas analysis upon admission and 6 hours later, and measurements of base excess and delta of hydrogen ions were performed at the same time. The group of patients was evaluated during their stay in the intensive care unit. Correlation of the base excess and the delta of hydrogen ions using Pearson's coefficient and Kappa coefficient.

Results:

Average age of 63.3 years, 65% was men average APACHE of 10.75 (95% CI: 9.3-12.1) and a SOFA of 5.2 (95% CI : 4.5-6.06). A significant correlation was found between the base excess and the delta of hydrogen ions. For the diagnosis of metabolic acidosis, the excess base and the hydrogen ion delta, an excellent agreement was found with a Kappa of 0.91 (p <0.0001). The change in the delta of hydrogens and the change in the excess base between the first and second samples showed a significant area under the ROC curve for the prediction of mortality. (for the delta of hydrogens AUC: 0.779; for the base excess AUC: 0.70).

Conclusion:

There is a good correlation between the values of base excess and delta of hydrogen ions, and the concordance for the diagnosis of acid-base imbalances is excellent. The change in delta H and excess base in the first 6 hours is a predictor of mortality. The hydrogen ion delta is a useful tool in describing the acid-base status of critically ill patients [2].