Comparison of end tidal carbon dioxide (ETCO2) and arterial blood bicarbonate levels in patients with metabolic acidosis referred to Emergency Medicine

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Abstract:

Objective:

The aim of this study was comparison of end tidal carbon dioxide (ETCO2) and arterial blood bicarbonate levels in patients with metabolic acidosis.

Methods:

In a cross-sectional and descriptive-analytical study that performed in Emergency Department of Tabriz University of Medical Sciences on patients with metabolic acidosis referred to Imam Reza hospital with metabolic acidosis, ETco2 level with bicarbonate levels in blood in 262 patients with metabolic acidosis was evaluated.

Results:

Mean Co2 level with Capnography in patients with metabolic acidosis was 22.29 ± 4.15 and mean Co2 level with ABG in patients with metabolic acidosis was 29.33 ± 6.5.

Mean Co2 level with Capnography was significantly lower than mean Co2 level with ABG in patients.

Capnography has shown Co2 level 7.03 ± 5.35 significantly lower than ABG.

Conclusion:

Significant direct liner correlation was found between Co2 level with Capnography with PH, PCo2, HCo3 and BE level in ABG.

In patients with renal failure, Cut-off-Point ET-Co2 with Ph=7.3 was calculated 22.5 and with Hco3<15 or BE<-7 was calculated 24.

In patients with sepsis, Cut-off-Point ET-Co2 with Ph=7.3, HCo3 = 15 or BE=-7 was calculated 23.5.
In other diseases, including DKA and other diseases determined Cut off point according to PH = 7.3, HCo3 = 15 and BE = -7 was not possible.
Key Words:
Metabolic Acidosis, ET-Co2, ABG