

GRADIENT OF BASE EXCESS AS A METABOLIC MARKER IN THE DETECTION OF SEVERE HIDDEN LESIONS IN TRAUMA PATIENTS.



EMS2019
MADRID
26-28 APRIL 2019



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OBJECTIVE:

In the out-of-hospital emergency medical services, some patients, not included as “severe trauma patients”, are diagnosed with potentially serious lesions after in-hospital assessment. Our objective is to study the connection between a base excess (BE) in venous blood and “hidden lesions” identification.



METHODOLOGY/METHOD:

Retrospective analytical study of the out-of-hospital emergency medical services provided in urban areas during the year 2018.

We included those patients transferred to trauma centres as “potentially severe”. We excluded those patients under 16 and/or with no blood test. Dependent variable, hidden lesions detected in-hospital. Independent variables: age, sex, BE and gradient of base excess (Δ BE) as the difference with respect to the reference value.

We used a ROC curve and multivariate binary logistic regression analysis, with Odds Ratio (OR) and CI 95% ($p < 0.05$)

RESULTS:

217 cases included, 163 men (75.1%), average age 38 with IQR (28-53); severe injuries detected in-hospital 109 (50.2%).

Area under de curve of the variable Δ BE is 67.3% with CI 95% (59-75). Youden Index to -0.5 Δ BE (equivalent to -2.5 in BE analysis). Age controlled, the OR: 5.7 CI 95% (2.7 – 12)

CONCLUSIONS:

A BE inferior to -2.5 in our study multiplies by 6 the probability of existence of severe hidden lesions as independent variable.

We consider out-of-hospital BE detection as an important metabolic index of the need of intensive care, already validated at hospital level.

