عنوان مقاله:

Predictive power of neuron specific enolase for traumatic brain injury in patients with head trauma

محل انتشار:

مجله جراحی و تروما, دوره 7, شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Hossein Saidi - *Associate Professor, Emergency Medicine Management Research Center, Iran university of Medical Sciences, Tehran, Iran*

Ali Dashti - *Emergency Physician, Research and Development Center of Firoozgar Hospital, Iran university of Medical Sciences, Tehran, Iran*

Maedeh Asna Aashari - *Emergency Physician, Emergency Medicine Management Research Center, Iran university of Medical Sciences, Tehran, Iran*

Saeed Gholami Gharab - *Emergency Physician, Trauma and Injury Research Centre, Iran university of medical science, Iran university of Medical Sciences, Tehran, Iran*

Mahdi Rezai - *Assistant Professor, Emergency Medicine Management Research Center, Iran university of Medical Sciences, Tehran, Iran*

Manizhe Nasirizadeh - *Msc in Nursing , East Nursing and Midwifery Research Center, Instructor , Faculty of Nursing .and Midwifery college , Birjand University of Medical Sciences, Birjand ,Iran*

خلاصه مقاله:

Introduction: The presence of a predictor for traumatic brain injury (TBI) in patients with head trauma could play a crucialrole in the identification of patients at higher risk of brain injury. The use of serum biomarkers like enolase to predict TBI in patients with head trauma is under investigation. Regarding this, the aim of the present study was to explore theassociation of neuron specific enolase (NSE) with TBI in patients with head trauma. Methods: This observational study was conducted on patients with isolated blunt head trauma. A total of ۱۶۸ subjects were enrolled in the study, ۸۴ cases of whom had isolated blunt head trauma, and ۸۴ individuals had no head trauma (i.e., control group). The serum concentration of NSE in all included subjects was measured within the first ۶ h. All patients underwent brain computed tomography (CT) scan. Statistical analysis was carried out using SPSS software, version ۱۹.۰. Independent t-test, one way ANOVA, and Chi-square test were used for statistical analysis. The receiver operating characteristic curve was plotted, and cut-off values of serum NSE were calculated to determine the sensitivity and specificity of this biomarker in the prediction of intracranial injuries. Results: The mean serum NSE concentrations for patients with head trauma and controls were ۲۳.۱۴±۲۲.۶۳ (۹۵% CI:۱۸.۷۷-۲۸.۳۹) and ۷.۰۰±۴.۴۲ ng/ml (۹۵% CI: ۳.۶۷-۱۰.۳۳), respectively, which were not significantly different (P=۰.۰۴۹). Furthermore, the serum NSE level was significantly higher in the group with severe trauma, compared with that in the group with mild trauma (P=۰.۰۲۳). According to our findings, the NSE of ≤ ۱۵.۵ ng/ml can rule out the likelihood of brain injury associated with head trauma with a sensitivity of ۱۰۰% and a specificity of ۸۸%. Conclusions: The NSE can be helpful to predict severe brain

injury in patients with head trauma where CT scan or other diagnostic tools are not available. According to our results, clinicians can rule out the possibility of a severe head injury after head trauma when having a case with a serum NSE level of ≤ ۱۵.۵ ng/ml.

کلمات کلیدی:
Brain injury, Head trauma, Neuron specific enolase (NSE), Prognosis