

ORIGINAL ARTICLE

The Agreement of Shock Index and Base Defects in Determining the Severity of Shock in Multiple Trauma Patients

Hamid Kariman, Hamid Reza Hatamabadi, Seyed Abdollah Mirfazli*

Department of Emergency Medicine, Imam Hosein Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

*Corresponding author: Seyed Abdollah Mirfazli; Department of Emergency Medicine, Imam Hosein Hospital, Shahid Madani Street, Tehran, Iran. Tel: +989111811914; Email: mirfazliabdollah@gmail.com

Abstract

Introduction: Although using clinical scales to predict shock severity is interesting for physicians as they provide rapid evaluation without need for special equipment, they are not highly reliable. Therefore, the present study was designed with the aim of assessing the agreement between shock index and base defects as scales of determining shock severity in multiple trauma patients. **Methods:** In the present prospective cross-sectional study, the agreement of shock index and base defects in determining shock severity in multiple trauma patients presenting to emergency department (ED) was assessed. Patients with blunt multiple trauma aged between 15 to 60 years with 8-15 consciousness level and without any underlying illness were enrolled and finally the data were analyzed using SPSS 20. **Results:** In total, 387 patients with the mean age of 36.31 ± 15.03 years (15 – 90) were studied (80.6% male). Most patients were in the 21-30 years age group (37.7%) and the most common trauma mechanisms were car accident (50.1%) and falling from height (24.8%). In addition, 15 (3.9%) patients had systolic blood pressure <90 mmHg and 49 (12.7%) had a heart rate >100/min. According to kappa coefficient, a 0.824 agreement was seen between these scales in rapid prediction of shock index. With the shock index increasing, the number of blood units received in the initial 6 hours of admission to ED for patient resuscitation rose from 0.02 to 1.72 units. **Conclusion:** Considering the results of the present study, it seems that shock index and base defect scales have acceptable agreement in prediction of shock severity in multiple trauma patients. This agreement increases in the 2 extremes namely normal and severe cases (level 1 and 4).

Key words: Severity of illness index; shock; acid-base equilibrium; emergency medicine
