

POSTER PRESENTATION

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Interleukin-17a as a predictor of occurrence of sepsis in polytrauma patients: a prospective observational study

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Introduction

One of the most serious complications of major trauma is the sequential dysfunction of vital organs, mostly associated with posttraumatic sepsis. IL-17 has been linked to the severity of inflammation in tissues. It initiates the production of other pro-inflammatory mediators resulting in an influx of neutrophils.

Objectives

To investigate whether the level of IL17A at the day of admission could predict the occurrence of sepsis in polytrauma patients or not.

Methods

A prospective cohort study in polytrauma patients. 100 consecutive adult polytrauma patients were included. Serum level of IL-17A was measured at the day of admission to the intensive care unit (ICU). Patients were screened for the development of sepsis. Other data collection included; demographic data Abbreviated Injury Scale (AIS), APACHE II score, acute kidney injury assessed by RIFLE criteria, acute respiratory distress syndrome (ARDS), duration of mechanical ventilation, ICU length of stay & 28-day mortality.

Results

Out of 100 patients 47 (47%) developed sepsis. Serum level of IL-17A was significantly higher in the group of patients who developed sepsis compared to the non-septic group (p-value 0.004). The optimum cut-off value of serum IL-17A for sepsis prediction in polytrauma patients was ≥ 53.8 pg/ml. This cut-off value had a sensitivity of

60.7 % & a specificity of 76.4%, area under the curve (AUC) was 0.687 (95% CI 0.573-0.802), (p value 0.004), as shown in Figure 1. High serum level of IL17-A was associated with increased 28 days ICU mortality as shown in Figure 2 (p value of 0.06).

Neither ARDS nor Multiple Organ Dysfunction Score (MODS) was associated with increased IL-17A serum level.

Conclusions

IL-17A is a potential predictor of sepsis occurrence in patients with polytrauma.

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Reference

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