

Quick Review of Model System Research

Predictive Value of IL-8 for Sepsis and Severe Infections After Burn Injury: A Clinical Study¹

What is the study about?

Inflammation created by burn injuries contributes to increased rates of infections, sepsis, organ failure, and death. This study explored with a biomarker, interleukin 8 (IL-8), could be used to predict post-burn sepsis, infections, and mortality.

Who participated in the study?

Four hundred sixty-eight pediatric patients with severe burns on more than 30% of their total body surface area (TBSA) were enrolled in this study. Subjects were 70% male and 8 ± 6 years old. Study participants were categorized based on their IL-8 levels. 335 patients were in the low group (IL-8 levels below 234 pg/mL) and 133 patients were in the high group (above 234 pg/mL).

How was the study conducted?

Study participants were monitored by hospital staff throughout their hospital stay for symptoms of sepsis and multi-organ failure. Patient data recorded by physicians, nurses, and supportive staff was collected and logged prospectively using the Emtex clinical information system. That data was then analyzed using logistic regression, linear regression analysis, paired and unpaired Student t-test, and chi-square analysis tests.

What did the study find?

IL-8 may be a valid biomarker for monitoring sepsis, infections, and death in burn patients. Subjects in the high IL-8 group had significantly longer hospital stays. They also experienced higher rates of multi-organ failure, infections, sepsis and death than those in the low group. In the low group, analysis of IL-8 levels indicated it could significantly predict the rate of multi-organ failure. In the high group, IL-8 levels were able to predict sepsis. High levels of IL-8 correlated with increased multi-organ failure, sepsis, and death. Death rates were lower in the low IL-8 group, both at the 60 day mark and overall.

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¹ Kraft, R., Herndon, D. N., Finnerty, C. C., Cox, R. A., Song, J., & Jeschke, M. G. (2014). Predictive Value of IL-8 for Sepsis and Severe Infections After Burn Injury-A Clinical Study. *Shock (Augusta, Ga.)*.