

Category : **Sepsis: biomarkers**

A68 - Prevalence, early predictors, and outcomes of sepsis in neurocritical illnesses: a prospective cohort study

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Introduction:

Patients with neurocritically illness are an under-recognized population at high risk of sepsis. We aimed to investigate the prevalence, early predictors, and outcomes of sepsis in neuro-ICU.

Methods:

Daily and accumulative incidences of sepsis in neuro-ICU were explored. Demographics, medical history, baseline disease severity scores, and baseline biomarkers regarding inflammation, immunology, organ function, and nutritional status were collected and analyzed as potential predictors of sepsis. Logistic regression analyses were used to determine the independent predictors, and a nomogram was used to estimate the individual probability of sepsis in neuro-ICU.

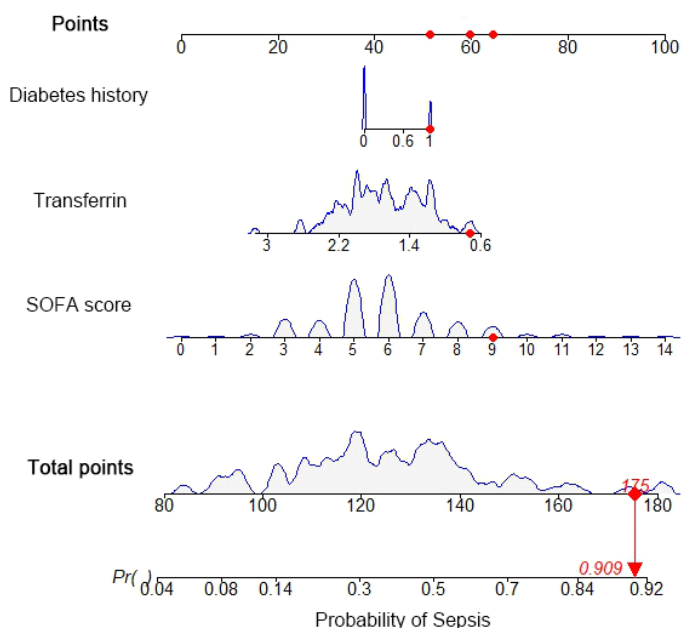
Results:

153 patients were included in this study. Fifty-nine (38.6%) patients developed sepsis, and 21 (14%) patients developed septic shock. More than 86% of septic cases occurred within the first week. SOFA score (RR 1.334, $p = 0.026$), history of diabetes (RR 2.346, $p = 0.049$), and transferrin (RR 0.128, $p = 0.042$) on admission are independent predictors of sepsis. Septic patients had significantly higher mortality ($p = 0.011$), higher medical cost ($p = 0.028$), and a lower rate of functional independence ($p = 0.010$), compared to patients without sepsis.

Conclusion:

Sepsis afflicted more than one-third of neurocritically-ill patients and occurred mostly in the first week of admission. History of diabetes, serum transferrin, and SOFA score on admission were early predictors. Sepsis led to significantly worse outcomes and higher medical costs.

Image :



Nomogram to estimate the individual probability of developing sepsis. The areas under the blue curves depict the distribution of independent risk factors. The red dots show an example of calculating the probability of

sepsis in a patient with a history of diabetes, a baseline transferrin level of 0.7 g/L, and a baseline SOFA score of 9 (total score is 175, the probability is 0.909).