



Pancreatic Stone Protein (PSP): implementation of a point-of-care test for the early identification and monitoring of sepsis in critically-ill patients

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Background

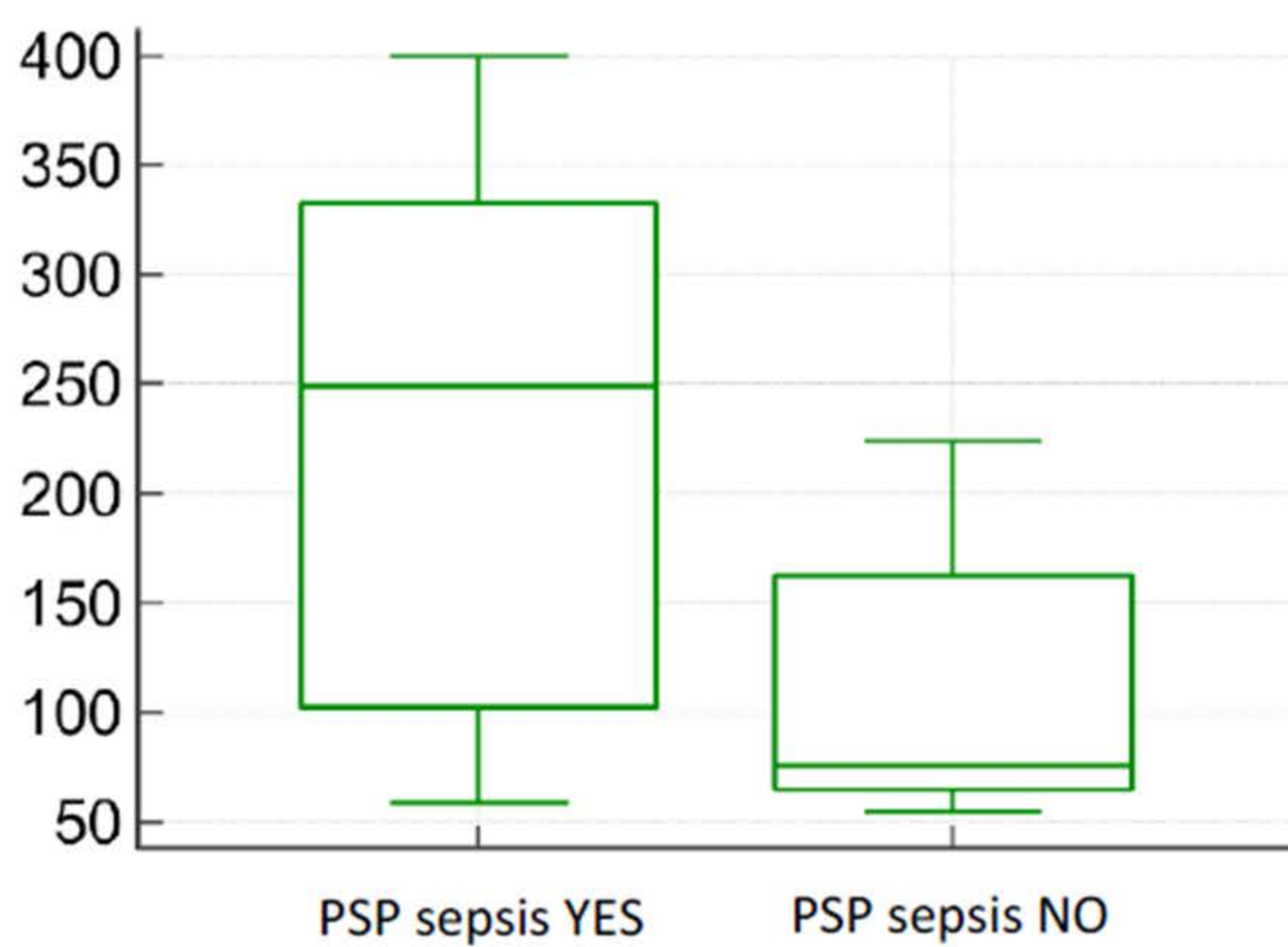
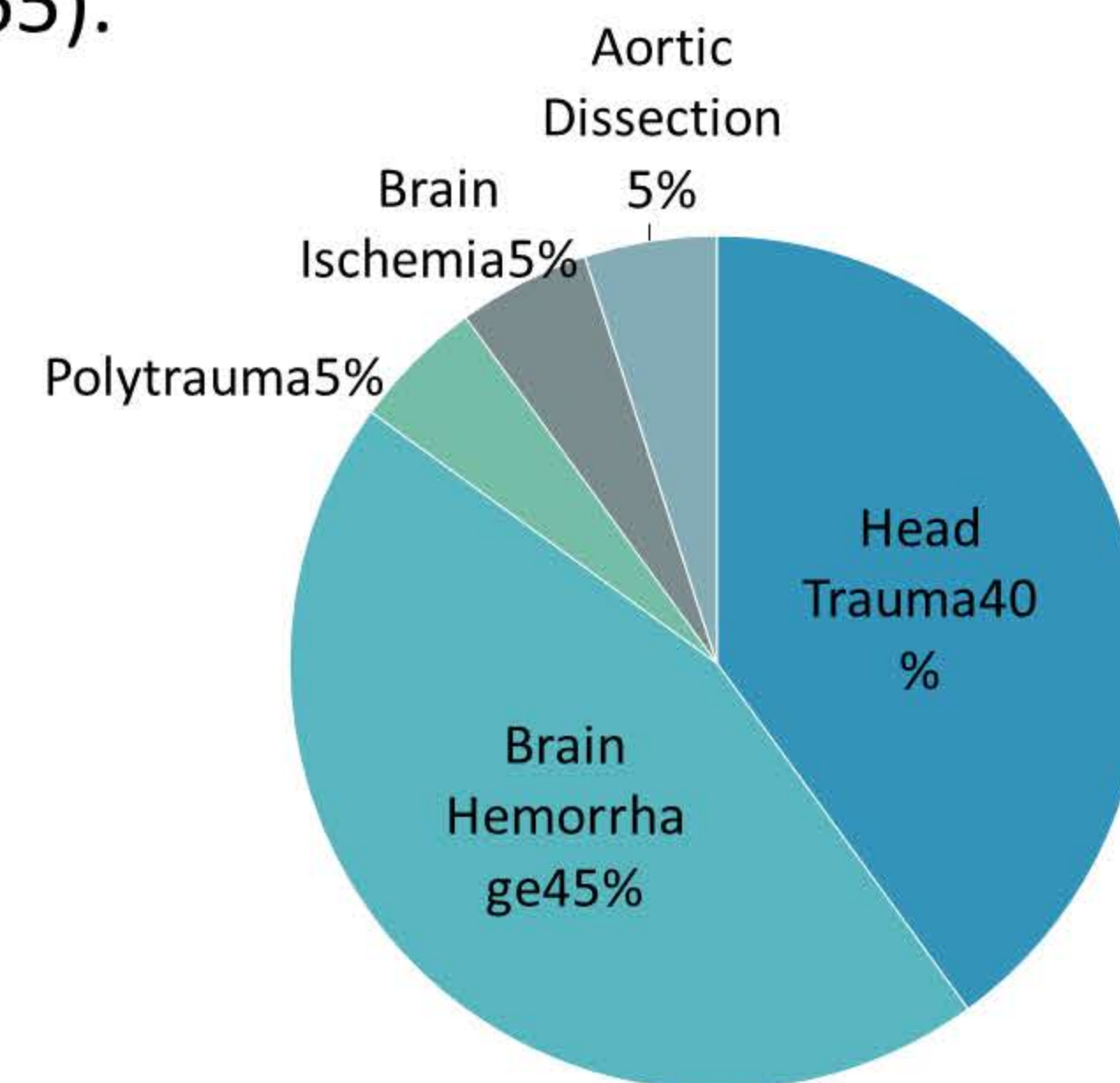
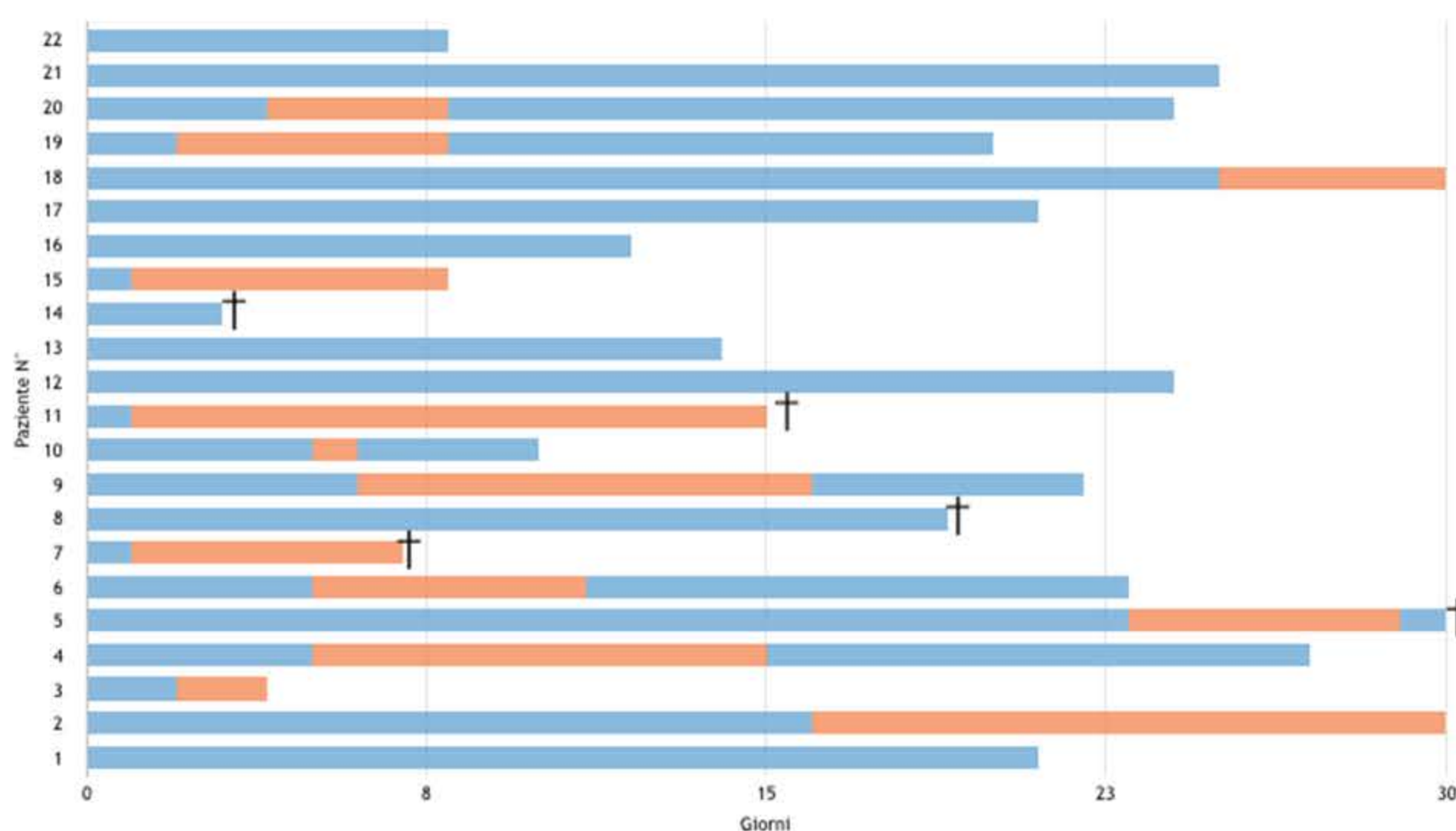
Sepsis is one of the leading causes of death in Intensive Care Unit (ICU) and represents one of the major challenges for clinicians. The clinical criteria used for the diagnosis of sepsis are still not consolidated as are biomarkers able to early recognize sepsis. Pancreatic stone protein (PSP) is a promising biomarker as sepsis predictor.

Methods

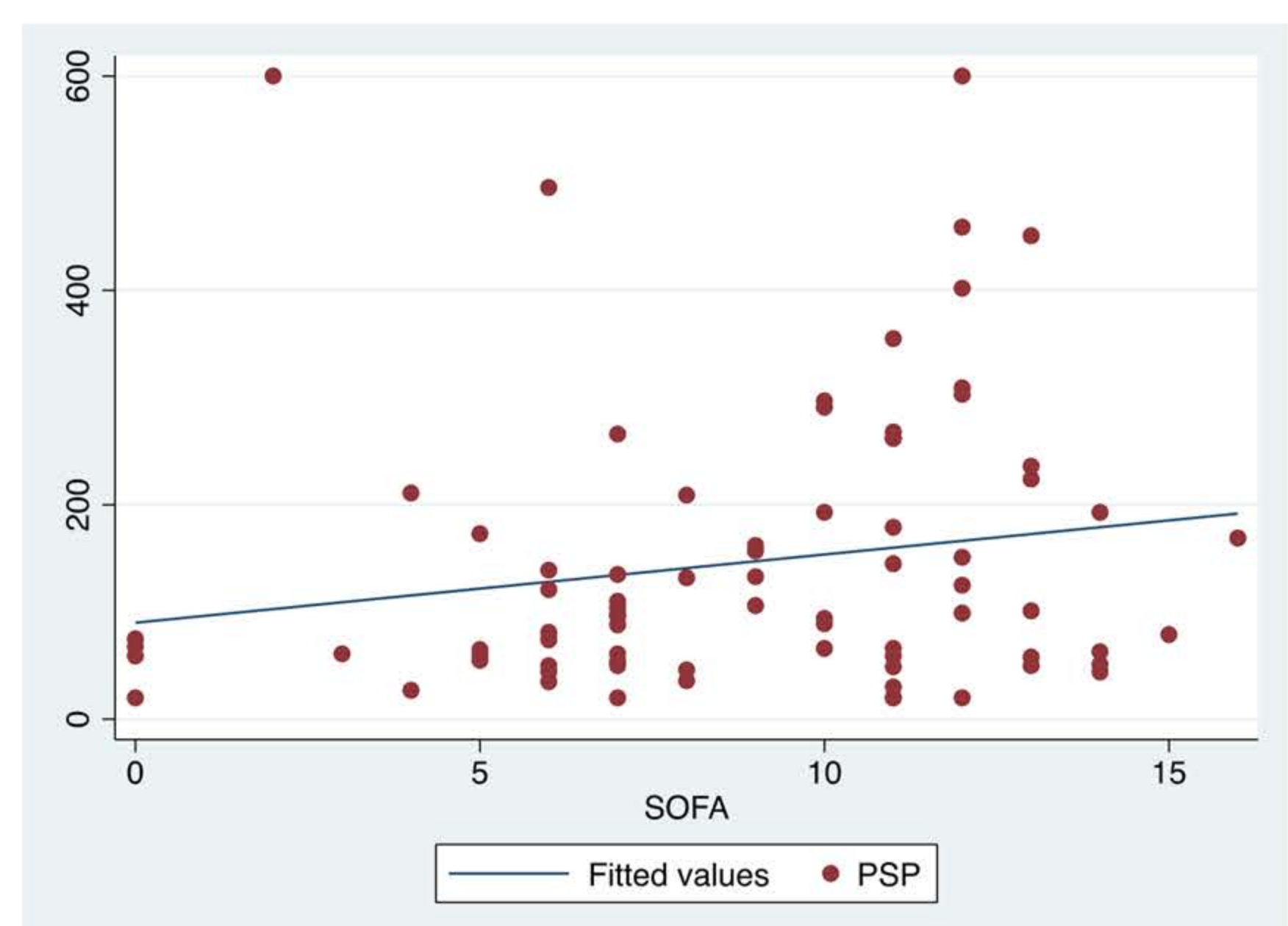
We daily monitored PSP levels with the point-of-care test abioSCOPE in twenty critically-ill patients at risk of sepsis admitted to our ICU. Microbiological sampling and treatments were performed in case of clinical suspects for infection and according to the clinical picture.

Results

PSP levels were shown to be statistically significant in distinguishing septic patients from those without sepsis ($p=0.041$). Furthermore, we shown that PSP levels were significantly higher in patients who developed sepsis before its clinical diagnosis according to Sepsis-3 criteria ($p=0.0265$).



PSP levels in patients with/without sepsis before its diagnosis according to Sepsis-3 definition



Regression curve relating clinical conditions in covid patients and PSP levels

Conclusions

Our findings suggest that PSP is an early predictor of sepsis, with a positive predictive value for mortality in septic patients and a negative predictive value in those with a systemic inflammatory response. The implementation of a point-of-care test that allows biomarkers measurements in five minutes from a drop of blood could also have an impact on the clinical outcome and survival of septic patients.