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**Combining Procalcitonin with Quick Sequential Organ Failure
Assessment (qSOFA) Score for Short Term Mortality Prediction in
Patients with Sepsis in Emergency Setting**

By

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Dissertation Submitted to the
Shri Dharmasthala Manjunatheshwara University, Dharwad, Karnataka.

In partial fulfilment
of the requirements for the degree of

Doctor of Medicine (MD)

in

General Medicine

Under the guidance of
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2019-22

ABSTRACT

Background and Objectives

To investigate whether Serum Procalcitonin (PCT) can improve the performance of quick sequential organ failure assessment (qSOFA) score in predicting sepsis mortality, we conducted a prospective cohort study. Patients with presumed sepsis presenting to ED or ICU were included based on SIRS criteria.

Methodology

qSOFA and Serum Procalcitonin was measured on admission for all the study subjects. They were followed up till discharge or 28 days whichever is longer. Early mortality (<7 days) and late mortality (>7 days) was recorded. P-value and ROC were used to prove a correlation between mortality and qSOFA plus Serum Procalcitonin.

Results

A total of 100 subjects was included in our study. Our study suggests incorporating PCT levels into qSOFA to correct for its low sensitivity. The high sensitivity (71.9%) and high NPV (61%) of qSOFA_+PCT justify the combined score as an initial screening tool. When 3 parameters i.e., qSOFA, Serum Procalcitonin and qSOFA with PCT was compared based on sensitivity, specificity, PPV & NPV, qSOFA plus PCT has got the best diagnostic value.

Conclusion

The incorporation of Serum Procalcitonin to the qSOFA could enhance sensitivity and reclassify patients into risk groups that better reflect their actual short-term mortality risk.

Keywords

qSOFA score, Serum Procalcitonin, ICU, Emergency setting, Sepsis, Septic shock,
Antibiotics, SIRS