

A retrospective study of sepsis outcomes comparing SIRS criteria to a novel scoring method in oncology and haematology patients

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Aims

The quick sequential organ failure assessment score (qSOFA) is an emerging initial assessment method that uses altered mental status, respiratory rate ≥ 22 and systolic blood pressure ≤ 100 mmHg to measure organ dysfunction. The aim is to facilitate earlier recognition of sepsis, to fit in with the new definitions of sepsis.

This is particularly important in cancer and haematology patients who are susceptible to sepsis, most likely because of barrier deficiencies and immunosuppression.

Our aims were to: 1 – compare the efficacy of qSOFA relative to SIRS in screening for sepsis by comparing outcomes in each group, in order to evaluate qSOFA as a screening tool; and 2 – evaluate how qSOFA and SIRS perform in the oncology and haematology patient group compared with the non-oncology and haematology group.

Methods

This is a retrospective study of 341 patients with a diagnosis of sepsis (ICD-10 codes A40 and A41) at an acute UK hospital, between April 2013 and March 2014. Outcomes indicating severity of sepsis, including ITU admission, hospital length of stay (LOS) in surviving patients, organ dysfunction and 30-day mortality, were compared with whether the patients met either SIRS or qSOFA criteria, or both. Patients were also grouped into whether they had an oncology/haematology background or not.

Results

19.9% (68) of patients did not meet either set of criteria and 40.8% (139) met both. 22.9% (78) of patients were SIRS positive but qSOFA negative, while 16.4% (56) were qSOFA positive but SIRS negative. 8.33% of patients who were SIRS negative/qSOFA positive were admitted to ITU, compared with 4.76% who were SIRS positive/qSOFA negative. The LOS in surviving patients was significantly longer ($p=0.02$) in SIRS negative/qSOFA positive patients compared with the SIRS positive/

qSOFA negative cohort. There is a statistically significant difference in 30-day mortality rates when comparing between all four groups ($p=0.000$). There was also a statistically significant difference when comparing outcomes between oncology/haematology patients and not.

Conclusions

Our results suggest that qSOFA and SIRS perform differently in identifying the septic patient. Outcomes are worse for patients who are SIRS negative/qSOFA positive compared with SIRS positive/qSOFA negative patients. This suggests that qSOFA may be a better indicator in identifying the septic patient, with strong predictive validity and provides a quick and reproducible bedside prompt to further investigation and management of sepsis.

Cancer patients are at high risk of sepsis and septic shock, and so emerging tools may be beneficial to reduce risk and improve care for sepsis. ■

Conflict of interest statement

We have read and understood RCP policy on declaration of interests and declare that we have no competing interests.

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