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TISS to predict mortality

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Intensive Care, outcomes, TISS, workload

Comments

This paper aptly demonstrates how application of an easy to use scoring system (TISS) can help in the decision making process with regard to ICU discharge. It identifies a group of patients who might benefit from an intermediate step-down care facility, although it has yet to be shown that this sort of facility improves outcome. Interestingly, if you apply the TISS score to many patients who never see an HDU or ICU facility, a score of 10 is often attained, which leads on to the suggestion that our wards are being inadequately staffed for the complex nature of medical care which is now routinely expected.

Introduction

Several studies have shown a 5-15% in-hospital mortality for ICU discharges. Although some of these cases have specifically been sent to the ward to die, the remainder are potentially preventable. The therapeutic intervention scoring system (TISS) measures work intensity, and may identify those patients who could benefit from a high dependency unit (HDU) because they are not yet ready for discharge to a ward environment.

Aims

To determine whether the TISS could identify those ICU discharges with a poor outcome, in a hospital with no HDU facilities.

Methods

All ICU discharges were prospectively followed up over a one year period. Demographics, post-ICU complications, TISS score = 76 (before and after discharge), and ICU bed occupancy prior to discharge were recorded.

Results

Of 410 patients admitted to the ICU over the study period (1997-1998), 69% were discharged to wards, 8% transferred to other ICUs and 23% died in the ICU. In total, 31 (11%) ward discharges died, but 6 were excluded from further analysis because they were specifically discharged for terminal care. Morbidity was high following discharge (46% of patients), and mortality was associated with increasing age, higher ICU admission acute physiology score (APS), higher ICU discharge TISS score, and male sex. Patients discharged from the ICU with a TISS score ≥ 20 had a 21.4% mortality, as opposed to 3.7% with a score < 10 . Bed occupancy and length of ICU stay were not associated with mortality.

Discussion

Patients discharged from the ICU who were still requiring a high work intensity, identified by a high TISS score, had a high in-hospital mortality. These patients may have benefited from an HDU environment which was not available at the author's hospital. Ideally, ward discharges should have a TISS score < 10 , an HDU should be available for those with a score between 10 and 19, and a score ≥ 20 may still require the ICU.

Additional information

An editorial accompanies this paper in the same issue of *Intensive Care Medicine* (Moreno R, Agthe D *Intensive Care Med* 1999, **25**:1035-1036).

References

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