FP008 Early discharge from the emergency department based on soluble urokinase plasminogen activator receptor levels: a substudy of the triage iii trial.

ABSTRACT

Background: Early and accurate identification of patients at low risk of serious illness may improve flow in the emergency department (ED) by classifying these patients as non-urgent or even suitable for discharge. This would allow for better utilisation of limited staff and resources and could potentially translate into improved patient outcomes. Blood-based prognostic biomarkers measured at admittance can be used for this purpose. One of these biomarkers is the nonspecific soluble urokinase plasminogen activator receptor (suPAR). In this substudy of the ***TRIAGE III trial, we hypothesised availability of suPAR might lead to a higher frequency of early discharges from the ED.***

Methods: In this post hoc substudy, we used data on the same consecutively included and unselected population as in the TRIAGE III trial, which was a randomised interventional trial investigating the introduction of suPAR as a routine biomarker in the ED. As early discharge based on suPAR would require the availability of the suPAR level, we compared patients with a valid suPAR measurement at admission to those without, regardless of whether patients arrived in interventional- or control periods. The primary endpoint was the proportion of patients discharged alive from the ED within 24 hours. In addition, we compared length of hospital stay and the number of readmissions within 30 days.

Results: We included 26,653 acute admissions of ***16,801 unique patients***. The suPAR level was available at the index admission in 7,905 patients (suPAR group), and no value was available in 8,896 (control group).

The proportion of patients who were discharged within 24 hours of admittance was significantly higher in the suPAR group compared to the control group: 50.2% (3,966 patients) vs. 48.6% (4,317 patients), P=0.04). Furthermore***, the mean length of hospital stay in the suPAR group was significantly shorter during the index admission compared to the control group*** (4.3 days (SD 7.4) vs. 4.6 days (SD 9.4), P=0.04). In contrast, readmission rate within 30 days was significantly higher in the suPAR group: 10.6% (839 patients) vs. 8.8% (785 patients), P<0.001. However, ***there was no difference in mortality (1.3% vs. 1.8%, P=0.09) or readmission rate (8.5% vs. 7.7%, P=0.18) in patients discharged within 24 hours***, for the suPAR group and control group respectively.

Conclusions: These post hoc analyses demonstrate that the availability of the prognostic biomarker suPAR was associated with a higher proportion of discharge within 24 hours, reduced length of stay, but more readmissions. There was no difference in mortality or readmission rate within 30 days in those discharged within 24 hours.