A674 - Midregional proadrenomedullin (MR-proADM) algorithm reduces hospitalization rate by identifying low risk patients in the ED safely treatable as out-patients

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Introduction:
In two independent observational cohorts MR-proADM values identified low disease severity patients without risk of disease progression in the ED with no 28 days mortality that wouldn´t require hospitalization [1]. This interventional study aimed to provide guidance to safely reduce the number of hospital admissions by implementing a MR-proADM algorithm that identifies low risk patients not requiring hospitalization.

Methods:
A randomized controlled interventional multicenter study in 4 EDs in Spain. The study protocol was approved by the Ethics Committees of the hospitals. Control arm patients received standard care. MR-proADM guided arm patients with low MR-proADM value (≤0.87 nmol/L) were treated as out-patients, with high MR-proADM value (>0.87 nmol/L) were hospitalized. The hospitalization rate was compared between the study arms.

Results:
Two hundred patients with suspicion of infection were enrolled. In the MR-proADM guided arm the hospital admission rate in the intention-to-treat population (ITT-P) was 17% lower than in the control arm (40.6% vs. 57.6%, p=0.024) and 21% lower in the per-protocol population (PP-P) (37.2% vs. 57.6%, p=0.009). The mortality rate in the out-patients group was 0% (5.1% in hospitalized patients in ITT-P). No significant difference for the safety endpoints re-admission and re-presentation rates were observed. The re-admission rate was slightly but not significantly higher in the MR-proADM guided arm compared to the control arm (PP-P: at 14 days 9.3% vs. 7.1%, p=1; at 28 days 11.1% vs. 9.5%, p=1). The rate of 28 days re-presentation was slightly lower in the MR-proADM guided arm compared to the control arm (20.4% vs. 26.2%, p=0.668; PP-P).

Conclusion:
Implementing a MR-proADM algorithm efficiently and sustaining optimizes ED workflows. Hospitals can highly benefit from a reduced rate of hospitalizations by 21% using MR-proADM.

References:

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