

Category : **Sepsis: biomarkers**

A100 - Proadrenomedullin assessment of multi-organ failure in covid-19 sepsis (pamocos): a prospective, multicentric observational study

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Introduction:

COVID-19 pandemic has emphasized the need for patients' good orientation, through overflow of critical care induced by surges. Mid-Regional ProAdrenomedullin (ProADM) was suggested as an early biomarker of endothelial damage and organ failures (OF) in sepsis. We aimed to assess its predictive value in COVID-19 patients admitted in ICUs, since endotheliitis is present in COVID-19 sepsis.

Methods:

Prospective multicentric observational study in 8 ICUs of Northern France (July 2020 to February 2021). Main objective was to study association between proADM blood levels at day 1 and day 3 OF, in groups with / without worsening of OF, assessed with SOFA score. Demographic, clinical and biological data were recorded at days 1 and 3 from admission.

Univariate and multivariate analysis (logistic regression) were performed.

Secondary objectives studied association of proADM levels with need of mechanical ventilation (MV) at day 3 and day 28 mortality.

Results:

170 patients were analyzed. Median age was 62; 74.7% were male, and 40.6% presented with cardiovascular comorbidity. Day 28 mortality was 20%.

In univariate analysis, worsening of SOFA at day 3 was associated with day 1 proADM levels (1.21nmol/mL [0.83-1.85] vs 0.89nmol/mL [0.71-1.12]; $p < 0.001$), and also with age ($p = 0.007$), male ($p = 0.06$), Charlson comorbidity index ($p = 0.02$), cardiovascular comorbidity ($p = 0.02$), respiratory rate ($p = 0.045$) National Early Warning Score ($p = 0.01$), PaO₂/FiO₂ ratio ($p = 0.06$), KDIGO level ($p = 0.043$), and lymphocytes' count ($p = 0.002$).

In multivariate analysis, there was a trend towards association of SOFA worsening at day 3 with day 1 proADM levels, without reaching significance (OR=1.94 [0.90-4.15] $p = 0.08$).

Secondary objectives shew in univariate analysis association of day 1 proADM with MV at day 3 ($p < 0.001$) and day 28 mortality ($p = 0.002$).

Conclusion:

Patients' number was calculated from 1st wave data, and may have been insufficient to reach significance. ProADM could be a promising biomarker in COVID-19 sepsis, regarding OF.