

APPENDIX 3.

Methodology.

Statistical analysis.

Continuous variables were described as median [25%-75% interquartile range (IQR)] and categorical variables as counts and percentages. Several pairs of clinical variables were compared using Pearson and Spearman correlations. Patients were categorized according to their state: survivors and non-survivors from ICU and Hospital. Clinical variables in both groups of patients were compared using χ^2 test for categorical variables (or Fisher exact test if absolute frequency was <5) and Mann-Whitney U test for quantitative variables. P-values were adjusted using Benjamini-Hochberg method to cope with problems of multiple comparisons deriving from multiple tests.

To analyse the predictive factors of ICU mortality (main end-point), and hospital mortality (secondary end-point), logistic regression models were used; univariate models were fitted, and then those associated with the outcome at the 5% level were introduced into a multivariate regression model clustered by centre, with variable selection based on the Akaike criterion, with the exceptions of two non-categorized variables (APACHE II and SOFA scores), which were excluded as they were considered redundant. A p-value <0.05 was retained to keep the variables in the final model. Missing data were not imputed in the analysis. Considering that the proportion of non-survivors with pneumonia was 54.5%, the proportion of survivors with pneumonia was 26.5% and the number of patients included was 153, the study's statistical power was estimated at 92.8%.

Logistic regression models were developed (using the variables with $p<0.05$ in the comparative analysis, previously reported in the literature or suggested as hypothesis). All reported P-values are 2-sided; $p<0.05$ was considered statistically significant. Based on the final model, we assessed both discrimination (via the c-index) and calibration (using Hosmer-Lemeshow statistics).