A gradient-boosted model analysis of the impact of body mass index on the short-term outcomes of critically ill medical patients

Modelo de análise gradiente boosted do impacto do índice de massa corporal nos desfechos em curto prazo de pacientes clínicos gravemente enfermos

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\textbf{Figure S1} - Histogram and density plot for the distribution of body mass indices in the population.

\textbf{Figure S2} - Partial dependence plot describing the effect of age on patient outcome.

\textbf{Figure S3} - Partial dependence plot of the influence of the Simplified Acute Physiology Score III adjusted by patient outcome. SAPS3 - Simplified Acute Physiology Score III.

\textbf{Figure S4} - Partial dependence plot of the influence of Charlson’s comorbidity index on patient outcome.
A gradient-boosted model analysis of the impact of body mass index

**Figure S5** - Partial dependence plot of the influence of the admission temperature on patient outcome.

**Figure S6** - Partial dependence plot of the influence of the length of stay before intensive care unit admission on patient outcome. LOS - length of stay; ICU - intensive care unit. **Comments:** Note that the association between the length of stay before intensive care unit admission and mortality was linear until reaching a plateau after 10 days.

**Figure S7** - Partial dependence plot of the influence of the performance status on patient outcome.

**Figure S8** - Partial dependence plot of the influence of sepsis on patient outcome.

**Figure S9** - Partial dependence plot of the influence of steroid use on patient outcome.
**Figure S10** - Effects of the association between the Simplified Acute Physiology Score III adjusted and age on patient outcome. SAPS3 - Simplified Acute Physiology Score III.

**Comments:** With lower SAPS3adj scores, the influence of age was small with a sharp increase for ages above 80; as SAPS3adj increased, the effect of age first resembled the profile shown in Figure S1 and then only decreased (i.e., the influence of age at high SAPS3adj values was small).

**Figure S11** - Effects of the association between the Simplified Acute Physiology Score III adjusted and Charlson’s comorbidity index on patient outcome. SAPS3 - Simplified Acute Physiology Score III.

**Comments:** Charlson’s comorbidity index was found to enhance the impact of SAPS3adj on death probability.

**Figure S12** - Effects of the association between Charlson’s comorbidity index and age on patient outcome.