Logistic regression model for analyzing association between the anaemia at ICU discharge (defined as haemoglobin concentration <90 g/L) and patient and illness related factors during ICU admission

We included the first Hb in the ICU in the model and then examined whether the “fixed” patient factors at the time of ICU admission, namely age, sex, patient height, and patient weight, were significantly associated with Hb <90 g/L at ICU discharge, after adjusting for the first Hb in ICU. The associations of the illness related variables at the time of ICU admission, namely APACHE II score, primary neurological diagnosis, and past medical history of IHD were then considered. Having a primary neurological diagnosis was examined because these patients are frequently treated differently in transfusion protocols and because the degree of brain injury often overrides other illness-related factors. The importance of the worst SOFA score that occurred during the ICU stay in each of the 5 system categories was then explored. The SOFA scores for each organ system were grouped into: 0 (no organ failure), 1-2 (mild/moderate organ failure), 3-4 (severe organ failure). Finally, we explored whether ICU length of stay, red cell transfusions during ICU stay, or the occurrence of haemorrhage were important after adjusting for the other variables.