**Table 3. Univariate and Multivariate analysis: Risk factors of change in hemoglobin from PICU admission to PICU discharge**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Risk factors** | **n\*** | **Mean Hb change, *g/L*** | **95% CI** | ***p*-value** | **Mean Hb change, *g/L*** | **95% CI** | ***p*-value** |
| **Total blood volume sampled** **(Includes discarded) per PICU stay, *ml/kg***  |  |   |  | 0.89 |   |  | 0.32 |
|  > 5 ml/kg | 43 | -5.70 | [-10.49, -0.90] |   | -8.12 | [-13.95, -2.28] |   |
|  1-5ml/kg | 74 | -6.64 | [-10.29, -2.98] |   | -3.86 | [-8.30, 0.59] |   |
|  < 1ml/kg  | 198 | -6.98 | [-9.23, -4.74] |  | -2.59 | [-6.42, 1.25] |  |
| **Age (*mo)***  |  |  |  | 0.003 |  |  | 0.004 |
|  >120 mo | 71 | -13.13 | [-17.73, -8.54] |   | -6.39 | [-11.11, -1.67] |   |
|  >72 - 120 mo | 42 | -4.63 | [-7.10, -2.17] |   | -3.27 | [-8.61, 2.07] |   |
|  > 1 mo - 72 mo | 158 | -3.52 | [-8.28, 1.24] |   | -0.93 | [-4.39, 2.54] |   |
|  0-1 mo  | 45 | -9.15 | [-12.82, -5.49] |  | -8.83 | [-13.86, -3.80] |   |
| **Sex** |  |   |  | 0.34 |   |  | 0.50 |
|  Male  | 169 | -7.65 | [-10.25, -5.05] |  | -4.29 | [-7.84, -0.74] |  |
|  Female  | 147 | -5.92 | [-8.34, -3.50] |  | -5.42 | [-8.95, -1.89] |  |
| **PELOD Score** |  |   |  | 0.95 |   |  | 0.94 |
|  > 10 | 39 | -5.95 | [-11.12, -0.77] |   | -5.14 | [-10.31, 0.03] |   |
|  5-9 | 95 | -6.52 | [-9.14, -3.91] |   | -5.62 | [-9.59, -1.64] |   |
|  1 -4 | 145 | -6.81 | [-10.07, -3.54] |   | -4.80 | [-8.11, -1.49] |   |
|  0  | 37 | -8.03 | [-13.07, -2.98] |  | -3.86 | [-9.32, 1.60] |  |
| **Length of stay in PICU, *days* (log)** |  |  . |  | 0.22 |  | - | 0.39 |
| **Main admission diagnosis**  |  |   |  | 0.11 |   |  | 0.065 |
|  Neurological disease | 28 | -4.75 | [-10.64, 1.14] |   | -0.36 | [-6.59, 5.87] |   |
|  Other | 36 | -11.64 | [-16.83, -6.45] |   | -9.16 | [-14.59, -3.72] |   |
|  Cardiac surgery | 48 | -3.56 | [-8.06, 0.94] |   | -2.96 | [-7.50, 1.59] |   |
|  Non-cardiac surgery | 55 | -4.72 | [-8.96, -0.48] |   | -4.08 | [-8.97, 0.81] |   |
|  Sepsis and shock | 30 | -11.27 | [-16.96, -5.58] |   | -9.52 | [-15.31, -3.74] |   |
|  Respiratory disease  | 119 | -6.75 | [-9.61, -3.88] |  | -3.05 | [-7.75, 1.66] |  |
| **Anemia on admission** |  |   |  | <.0001 |   |  | <.0001 |
|  Yes  | 139 | -0.28 | [-2.77, 2.20] |  | 0.03 | [-3.40, 3.46] |  |
|  No | 176 | -11.85 | [-14.06, -9.63] |  | -9.73 | [-13.54, -5.93] |  |
| **Transfusion** |  |   |  | <.0001 |   |  | 0.0002 |
|  Yes  | 40 | 3.65 | [-1.16, 8.46] |   | 0.85 | [-4.56, 6.26] |   |
|  No  | 276 | -8.24 | [-10.08, -6.40] |  | -10.56 | [-13.46, -7.67] |  |

Abbreviations used: OR = Odds Ratio; aOR = adjusted Odds Ratio; Hb = hemoglobin; mo = months; ref = reference; log = log

\*423 patients were included in the study; however, 109 patients were excluded for the risk factor analysis for anemia at PICU discharge, for the following reasons: 1- less than 2 blood samples performed during PICU stay OR 2- no Hemoglobin value on PICU admission / discharge OR 3- non-survivors. (see Figure 1).