

A The linear predictor, $X\beta$, for risk of AKI in ICU patients estimated from logistic model is given by: $\text{Prob}\{\text{AKI} = 1\} = 1/[1 + \exp(-X\beta)]$, where

$$X\beta =$$

$$33.09418$$

$$\begin{aligned} & - 0.1356124x(\text{age of patient in years at time of admission}) \\ & + 0.0006794233x(\text{age} - 0.3104723)^3 \{x1 \text{ if age}>0.3104723, x0 \text{ if not}\} \\ & - 0.0009164567x(\text{age} - 4.366872)^3 \{x1 \text{ if age}>4.366872, x0 \text{ if not}\} \\ & + 0.0002370334x(\text{age} - 15.99398)^3 \{x1 \text{ if age}>15.99398, x0 \text{ if not}\} \\ \\ & + 0.09985185x(\text{number of high risk nephrotoxins}) \\ & + 0.7840496x(\text{number of moderate nephrotoxins}) \\ & - 0.1185471x(\text{total number of medications}) \\ \\ & - 0.00351531x(\text{minimum platelet count}) \\ & + 5.771816 \times 10^{-9}x(\text{minimum platelet count} - 110)^3 \{x1 \text{ if plt}>110, x0 \text{ if not}\} \\ & - 1.970378 \times 10^{-8}x(\text{minimum platelet count} - 278)^3 \{x1 \text{ if plt}>278, x0 \text{ if not}\} \\ & + 1.393197 \times 10^{-8}x(\text{minimum platelet count} - 347.6)^3 \{x1 \text{ if plt}>347.6, x0 \text{ if not}\} \\ \\ & + 0.263851x(\text{median RDW}) \\ & - 0.07609847x(\text{median RDW} - 12.7)^3 \{x1 \text{ if RDW}>12.7, x0 \text{ if not}\} \\ & + 0.1049634x(\text{median RDW} - 13.25)^3 \{x1 \text{ if RDW}>13.25, x0 \text{ if not}\} \\ & - 0.02886494x(\text{median RDW} - 14.7)^3 \{x1 \text{ if RDW}>14.7, x0 \text{ if not}\} \\ \\ & - 0.634771 \{x1 \text{ if all Phosphorus below ULN; x0 if not}\} \\ & + 1.074503 \{x1 \text{ if one or more Phosphorus above ULN, x0 if not}\} \\ \\ & - 1.683567 \{x1 \text{ if all transaminases below ULN, x0 if not}\} \\ & - 0.5490133 \{x1 \text{ if one or more transaminases above ULN; x0 if not}\} \\ \\ & - 4.749266x(\text{minimum pH}) \\ & + 10.82387x(\text{minimum pH} - 7.091)^3 \{x1 \text{ if pH}>7.091, x0 \text{ if not}\} \\ & - 50.33098x(\text{minimum pH} - 7.31)^3 \{x1 \text{ if pH}>7.31, x0 \text{ if not}\} \\ & + 39.50712x(\text{minimum pH} - 7.37)^3 \{x1 \text{ if pH}>7.37, x0 \text{ if not}\} \\ \\ & + 0.2892442 \{x1 \text{ if hypotension, x0 if not}\} \end{aligned}$$

B The linear predictor, $X\beta$, for risk of AKI in non-ICU patients estimated from logistic model is given by: $\text{Prob}\{\text{AKI} = 1\} = 1/[1 + \exp(-X\beta)]$, where

$$X\beta =$$

$$- 9.23834$$

$$- 0.04283898 \times (\text{age of patient in years at time of admission})$$

$$- 0.00002324064 \times (\text{age} - 0.5607118)^3 \{x1 \text{ if age} > 0.5607118, x0 \text{ if not}\}$$

$$+ 0.00004630597 \times (\text{age} - 8.845996)^3 \{x1 \text{ if age} > 8.845996, x0 \text{ if not}\}$$

$$- 0.00002306534 \times (\text{age} - 17.19425)^3 \{x1 \text{ if age} > 17.19425, x0 \text{ if not}\}$$

$$- 0.1246498 \times (\text{number of high risk nephrotoxins})$$

$$+ 0.2629128 \times (\text{number of moderate risk nephrotoxins})$$

$$- 0.114002 \times (\text{total number of medications})$$

$$+ 0.00007525359 \times (\text{minimum platelet count})$$

$$- 7.574603 \times 10^{-8} \times (\text{minimum platelet count} - 185)^3 \{x1 \text{ if plt} > 185, x0 \text{ if not}\}$$

$$+ 1.709404 \times 10^{-7} \times (\text{minimum platelet count} - 278)^3 \{x1 \text{ if plt} > 278, x0 \text{ if not}\}$$

$$- 9.519434 \times 10^{-8} \times (\text{minimum platelet count} - 352)^3 \{x1 \text{ if plt} > 352, x0 \text{ if not}\}$$

$$+ 0.7009481 \times (\text{median RDW})$$

$$- 0.2161525 \times (\text{median RDW} - 12.75)^3 \{x1 \text{ if RDW} > 12.75, x0 \text{ if not}\}$$

$$+ 0.2808688 \times (\text{median RDW} - 13.25)^3 \{x1 \text{ if RDW} > 13.25, x0 \text{ if not}\}$$

$$- 0.06471632 \times (\text{median RDW} - 14.92)^3 \{x1 \text{ if RDW} > 14.92, x0 \text{ if not}\}$$

$$- 0.01514728 \{x1 \text{ if all Phosphorus below ULN; x0 if not}\}$$

$$+ 0.8270704 \{x1 \text{ if one or more Phosphorus above ULN, x0 if not}\}$$

$$- 0.9165366 \{x1 \text{ if all transaminases below ULN, x0 if not}\}$$

$$- 0.7049327 \{x1 \text{ if one or more transaminases above ULN; x0 if not}\}$$