Category :**Emergency room**

A283 - ***Development of the hiv in-hospital mortality prediction (hiv-imp) risk score***

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Introduction:

With 690 000 HIV related deaths in 2019, HIV is a major cause of global mortality. Despite over 30 years into the HIV epidemic, there are currently no clinical scoring tools that can predict mortality in HIV-positive patients requiring hospital admission. Therefore, the aim of this study was to develop and internally validate such a score.

Methods:

Consecutive HIV-positive patients presenting to the Charlotte Maxeke Johannesburg Academic Hospital Adult Emergency Department between 07 July 2017 and 18 October 2018 were prospectively enrolled. Multivariate logistic regression was used to determine parameters for inclusion in the final risk score. Discrimination and calibration were assessed by means of the area under the receiver operating curve (AUROC) and the Hosmer–Lemeshow goodness-of-fit test respectively. Internal validation was conducted using the regular bootstrap technique.

Results:

The overall in-hospital mortality rate was 13.6% (n=166). Eight predictors were included in the final risk score: ART non-adherence or not yet on ART, Glasgow coma scale <15, respiratory rate >20 breaths per minute, oxygen saturation <90%, white cell count <4 x 10^9/L, creatinine >120 μmol/L, lactate >2 mmol/L and albumin <35 g/L. After internal validation, the risk score maintained good discrimination (AUROC 0.83, 95% confidence interval (CI) 0.78 – 0.88) and calibration (Hosmer-Lemeshow χ^2 2.26, p = 0.895).

Conclusion:

The HIV In-hospital Mortality Prediction (HIV-IMP) risk score has overall good discrimination and calibration is relatively easy to use. Further studies should be aimed at externally validating the score in varying clinical settings.

References:

Laher A, Paruk F, Venter W, Ayeni O, Richards G. Predictors of in-hospital mortality among HIV-positive patients presenting with an acute illness to the emergency department. HIV Med 2021;In press:hiv.13097.

Image :

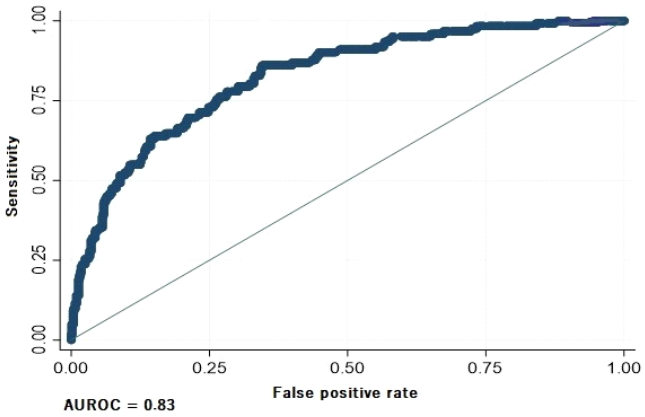

Figure 1: Receiver operating characteristic (ROC) curve of the HIV-IMP risk score