

P1937 The nosocomial XDR score: shortening delays in initiating appropriate therapy, while improving the outcomes of patients with nosocomial sepsis caused by extensively drug-resistant pathogens

Nathan Strul¹, Khalil Chedid², Shani Zilberman-Itskovich¹, Emily Martin², Tsillia Lazarovitch¹, Ronit Zaidenstein¹, Mor Dadon¹, Hodaya Saadon¹, Tal Maya¹, Dror Marchaim*¹

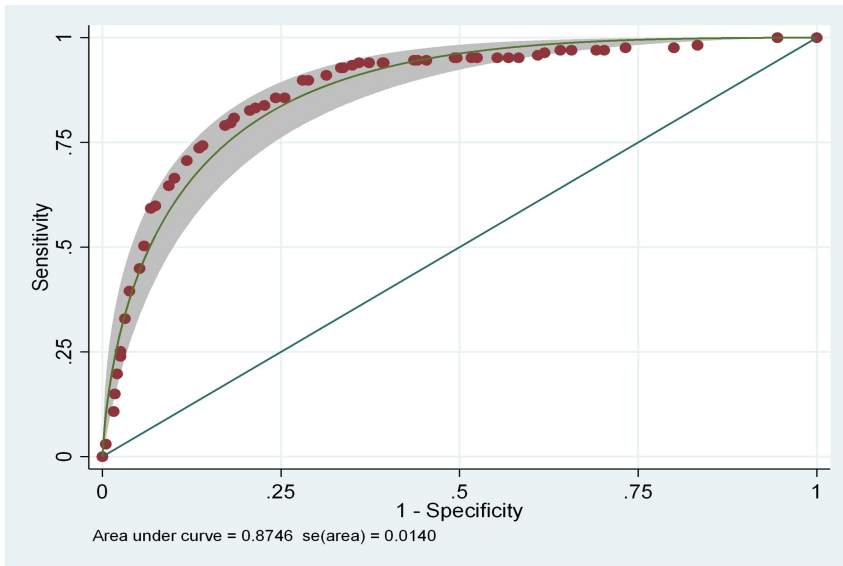
¹ Assaf Harofeh Medical Center, Unit of Infection Control, Beer Yaacov, Israel, ² School of Public Health, University of Michigan, Ann Arbor, United States

Background: Hospital acquired infections (HAI) are a common iatrogenic complication. The proportion of HAI resulting from extensively drug resistant organisms (XDRO) is substantial. Nosocomial XDRO infections are frequently associated with a delay in initiation of appropriate antimicrobial therapy (DAAT), which is the strongest modifiable independent predictor of mortality in severe sepsis. Developing a predictive tool for nosocomial XDRO infections, could reduce DAAT and improve patients' outcomes, while alleviating institutional stewardship efforts.

Materials/methods: A retrospective case-control analysis was conducted for patients with nosocomial (≥ 96 hours) sepsis (based on established criteria) at the Assaf Harofeh Medical Center, Israel (2016). Coefficients from a multivariable logistic regression model of risk factors for XDRO infection were used to develop a predictive score. The performances of the score in predicting XDRO was assessed by the area under the receiver operating characteristic curve (ROC AUC).

Results: 802 patients were enrolled, of which 167 (21%) had XDRO infection. The independent risk factors incorporated in the final score were: 1) ICU stay at infection onset (20 points), 2) prior multi-drug resistant organism (MDRO) carriage in the past two years (15 points), 3) pneumonia as the infectious clinical syndrome (11 points), 4) severe sepsis / septic shock or multi-organ failure (10 points), 5) limbs hemiplegia or paresis (5 points), 6) recent past (3 months) invasive procedure (3 points), and 7) male sex (3 points). With a cutoff point of 36 points, the model's performances were: sensitivity 90%, specificity 72%, positive prediction value 46%, negative predictive value 96%, and ROC AUC of 0.88.

Conclusions: We developed a tool with the highest performances thus far, to predict nosocomial XDRO infection, in order to decrease DAAT and improve patients' outcomes, while contributing to institutional stewardship efforts. The score should be validated in other centers and tested prospectively in an interventional trial.



29TH ECCMID
13-16 APRIL 2019 AMSTERDAM, NETHERLANDS
POWERED BY M-ANAGE.COM

