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External Validation of the Simple Postoperative AKI Risk (SPARK-AKI) Classification System in Predicting Post-Operative Acute Kidney Injury Among Filipino Adult Patients Undergoing Non-Cardiac Surgery in a Tertiary Hospital

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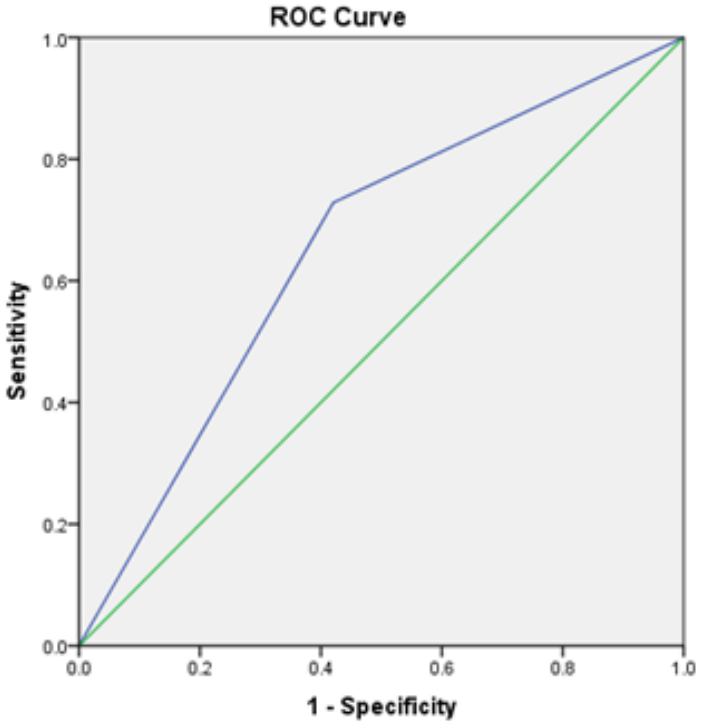
Objectives : Most literature on acute kidney injury (AKI) have focused on complications post-cardiac surgery due to the inherent high risk nature of the procedures. As such, validated AKI risk stratification systems for cardiac surgeries and contrast-related procedures are already in use in clinical practice, but no such scoring system is currently used for non-cardiac procedures. To address this gap in literature and clinical practice, Park, et al (2019) created the SPARK-AKI, an AKI predictive risk stratification model for non-cardiac surgeries. This study aims to validate the SPARK-AKI classification system for use in predicting the occurrence of post-operative AKI among adult Filipino patients undergoing non-cardiac surgery.
Methods : This is a single-center, retrospective cohort study of 1,161 adult Filipino patients admitted for and completed any non-cardiac surgery in the Philippine General Hospital from January 1, 2017 to December 31, 2022.
Results : A total of 1,161 charts were included in the final data analysis. A total of 243 patients (20.93%) developed AKI post-operatively, with note of increasing incidence of both low-risk and critical AKI as the SPARK-AKI classification increases. However, the resulting sensitivity, specificity, positive predictive value, and area under the curve values were below acceptable ranges.
Conclusions : The SPARK-AKI scoring system has low predictive value when applied to the Filipino population.

AUC plot.png



Diagonal segments are produced by ties.