

Category : **Renal: failure**

**A96 - Oliguria in critically ill patients: impact on aki classification and outcomes prediction**

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**Introduction:**

The relevance of KDIGO oliguria-based criteria for acute kidney injury (AKI) is disputed. We aimed to determine their impact on AKI diagnosis, severity assessment and mortality prediction.

**Methods:**

We conducted a cohort study including all adult patients admitted to our unit between 2010 and 2020. Daily serum creatinine (sCr) and hourly urinary output (UO) measurements along with socio-demographic characteristics and severity scores were extracted. Long-term mortality was assessed by cross-referencing our database with the Swiss national death registry. We determined the onset and severity of AKI according to KDIGO classification using UO and sCr criteria separately and assessed their agreement. Using a multivariable model accounting for baseline characteristics, severity scores and sCr stages, we evaluated the relative influence of UO criteria on 90-day mortality. Sensitivity analyses were conducted to assess the impact of missing sCr, body weight and UO values.

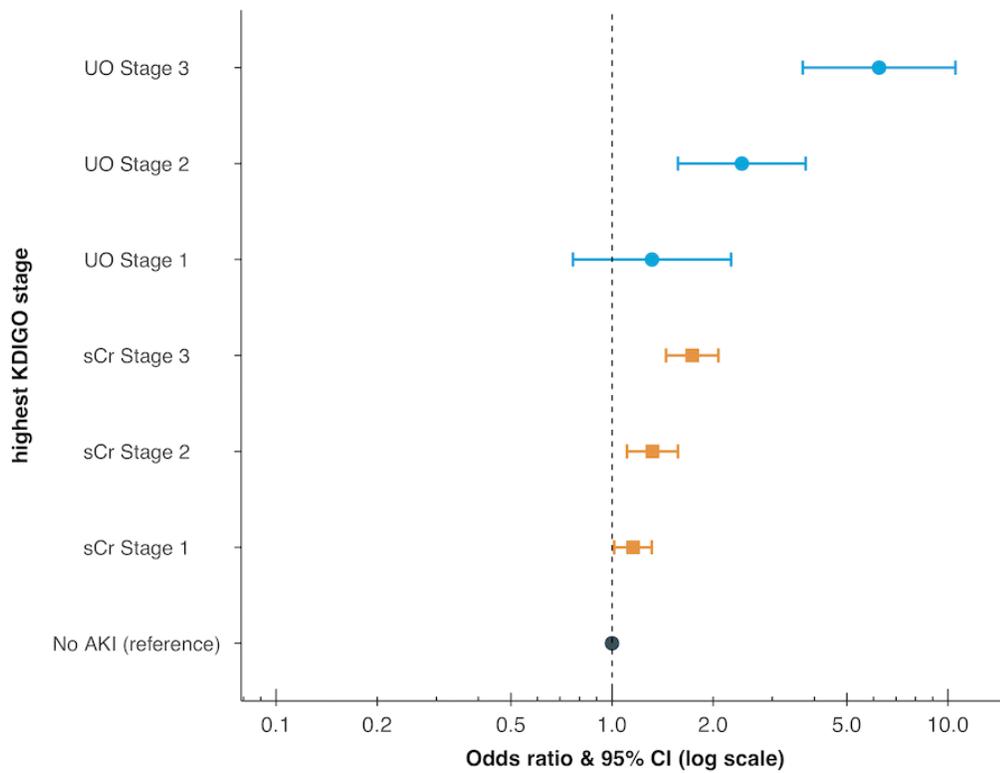
**Results:**

Among the 15'620 patients included [10'330 (66.1%) males, median age 65.0 years (IQR 53.0-75.0), median SAPS score 40.0 (IQR 30.0-53.0), median follow-up 67.0 months (IQR 34.0-100.0)], 12'143 (77.7%) fulfilled AKI criteria. sCr and UO criteria had poor agreement on AKI diagnosis and staging (Cohen's weighted kappa = 0.36, 95% CI 0.34-0.37, p<0.001). Compared to the isolated use of sCr criteria, consideration of UO criteria enabled to identify AKI in 5'630 (36.0%) patients. Those patients had a higher 90-day mortality than no-AKI patients (respectively 12.9% and 8.3%, p<0.001). On multivariable analysis accounting for sCr stage, comorbidities and illness severity, UO stage 2 and 3 were associated with a higher 90-day mortality [OR 2.4 (1.6-3.8), p < 0.001, and 6.2 (3.7-10.5), p<0.001, respectively]. These results remained significant in all sensitivity analyses.

**Conclusion:**

Oliguria lasting more than 12 hours (KDIGO stage 2 or 3) has major diagnostic and prognostic implications, irrespective of sCr elevations.

**Image :**



Adjusted odds ratio for 90-day mortality per AKI severity stage according to KDIGO sCr or UO criteria. The relation between AKI severity and 90-day mortality was explored in a multivariate logistic regression model. Variables included in the model were age at ICU admission, baseline sCr, SAPS II score, Charlson score, and main ICU diagnosis. As no collinearity was found between KDIGO sCr and UO criteria both were included together in the model. Goodness of fit assessed by the Hosmer–Lemeshow test,  $\chi^2 = 430.47$ ,  $df = 498$ ,  $p = 0.99$ . Discrimination power assessed by the area under the receiver operating characteristic curve for the model for 90-day mortality = 0.87 (95 % CI 0.86 – 0.87),  $p = 0.014$ . Patients included in the analysis,  $n = 14'852/15'551$  (95.5%).