

## Supplement

### Text S1. Recalculation of Creatinine

Estimated glomerular filtration rate (eGFR, ml/min/1.73m<sup>2</sup>) values at ULMC are calculated on the basis of the CKI-EPI equations [17] (using SCr in μmol/L) for a predominantly non-black cohort thus:

Sex-specific knot mg/dL (μmol/L)	Equation
Females ≤ 0.7 (62)	$eGFR = 144 \times (SCr/0.7)^{-0.329} \times (0.993)^{Age}$
Females > 0.7 (62)	$eGFR = 144 \times (SCr/0.7)^{-1.209} \times (0.993)^{Age}$
Males ≤ 0.9 (80)	$eGFR = 141 \times (SCr/0.9)^{-0.411} \times (0.993)^{Age}$
Males > 0.9 (80)	$eGFR = 141 \times (SCr/0.9)^{-1.209} \times (0.993)^{Age}$

For the reverse action, the inference of serum creatinine (SCr) from eGFR, we rearranged the equations to the following while retaining the original grouping below and at/above the sex-specific knot, respectively. The factors 0.9 (instead of 0.7), 141 (instead of 144), and -0.411 (instead of -0.329) are needed to transform a “female” SCr into “male” SCr via the original eGFR. The recalculation of males into younger individuals was achieved by setting the variable Age to 30.

$$\begin{aligned} \text{Below/at sex-specific knot} \quad SCr &= e^{\ln(eGFR/141/0.993 \wedge Age) / (-0.411)} * 0.9 * 88.42 \\ \text{above sex-specific knot} \quad SCr &= e^{\ln(eGFR/141/0.993 \wedge Age) / (-1.209)} * 0.9 * 88.42 \end{aligned}$$

**Table S1. Comparison of progressive and non-progressive cases at first AKI detection during hospitalization in females and males. Variables are given as medians [interquartile range] or percentages. Significant *p*-Values (< 0.05) highlighted as bold.**

	Female			Male		
	Progressive AKI	Non-progressive AKI	<i>p</i> -Value	Progressive AKI	Non-progressive AKI	<i>p</i> -Value
Incidence proportion, n, %	554, 22.0	2514, 78.0		904, 25.0	3620, 75.0	
<b>Basic patient characteristics</b>						
Age (years)	70.7 [59.0–79.5]	72.4 [60.7–81.1]	<b>0.013</b>	66.0 [57.0–75.9]	68.0 [58.2–78.1]	<b>0.003</b>
Total length of hospitalization (days)	24.7 [14.2–43.1]	15.1 [8.3–27.1]	<b>&lt; 0.001</b>	26.3 [14.9–42.6]	16.0 [8.2–28.3]	<b>&lt; 0.001</b>
First eGFR	58.0 [36.1–85.1]	60.2 [36.0–85.5]	0.696	61.9 [37.7–88.1]	63.7 [39.7–88.2]	0.371
Last eGFR	44.9 [25.2–74.4]	54.9 [34.4–83.6]	<b>&lt; 0.001</b>	58.1 [38.1–85.7]	46.0 [25.7–75.7]	<b>&lt; 0.001</b>
Time to first AKI during hospitalization (days)	4.9 [1.9–11.9]	4.6 [1.9–10.6]	0.242	4.5 [1.8–9.4]	4.5 [1.9–10.0]	0.336
In-hospital mortality	45.5	16.8	<b>&lt; 0.001</b>	45.0	17.5	<b>&lt; 0.001</b>
<b>Comorbidities</b>						
I10.- Hypertension	47.7	48.3	0.823	46.9	46.2	0.750
E11.- Diabetes mellitus	31.4	31.9	0.847	35.2	34.2	0.607
E86.- Exsiccosis	6.0	4.5	0.176	3.4	4.6	0.143
R57.- Shock	37.9	12.6	<b>&lt; 0.001</b>	44.3	16.8	<b>&lt; 0.001</b>
I25.- Coronary heart disease	11.2	14.0	0.097	23.5	23.3	0.980
I21.- Myocardial infarction	3.4	3.2	0.869	6.2	4.5	<b>0.046</b>
I50.- Cardiac insufficiency	33.9	27.8	<b>0.004</b>	34.6	26.4	<b>&lt; 0.001</b>
A41.- Sepsis	38.8	15.6	<b>&lt; 0.001</b>	41.9	20.7	<b>&lt; 0.001</b>
K74.- Liver cirrhosis	8.7	4.3	<b>&lt; 0.001</b>	9.0	4.1	<b>&lt; 0.001</b>

**Table S2. Comparison of age groups with regard to AKI stages and sex. Based on common AKI cases for females and females as male.**

Age group		First AKI stage during hospitalization, %, (n)			Maximum AKI stage during hospitalization, %, (n)		
		AKIN1	AKIN2	AKIN3	AKIN1	AKIN2	AKIN3
[18–41)	Female	78.2 (140)	15.1 (27)	<b>6.7 (12)</b>	62.6 (112)	20.1 (36)	<b>17.3 (31)</b>
	Female as male	74.3 (133)	14.0 (25)	<b>11.7 (21)</b>	59.8 (107)	13.4 (24)	<b>26.8 (48)</b>
[41–61)	Female	81.3 (443)	12.1 (66)	<b>6.6 (36)</b>	61.3 (334)	22.6 (123)	<b>16.1 (88)</b>
	Female as male	83.1 (453)	10.8 (59)	<b>6.1 (33)</b>	62.2 (339)	20.7 (113)	<b>17.1 (93)</b>
[61–81)	Female	82.8 (1207)	11.5 (167)	<b>5.7 (83)</b>	65.5 (955)	20.9 (305)	<b>13.5 (197)</b>
	Female as male	83.1 (1211)	10.3 (150)	<b>6.7 (97)</b>	65.4 (953)	18.1 (264)	<b>16.5 (241)</b>
[81–max]	Female	86.2 (631)	10.5 (77)	<b>3.3 (24)</b>	71.7 (525)	20.1 (147)	<b>8.2 (60)</b>
	Female as male	85.1 (622)	9.4 (69)	<b>5.5 (40)</b>	69.4 (507)	17.1 (125)	<b>13.5 (99)</b>

**Table S3. Comparison of age groups regarding AKI stages and sex. Based on common AKI cases for males and males as young.**

Age group		First AKI stage during hospitalization, %, (n)			Maximum AKI stage during hospitalization, %, (n)		
		AKIN1	AKIN2	AKIN3	AKIN1	AKIN2	AKIN3
[18–41)	Male	74.2 (187)	17.9 (45)	<b>7.9 (20)</b>	57.5 (145)	23.8 (60)	<b>18.7 (47)</b>
	Male as young	76.6 (193)	15.1 (38)	<b>8.3 (21)</b>	59.5 (150)	20.2 (51)	<b>20.2 (51)</b>
[41–61)	Male	79.2 (795)	12.6 (127)	<b>8.2 (82)</b>	56.1 (563)	21.9 (220)	<b>22.0 (221)</b>
	Male as young	83.7 (840)	8.5 (59)	<b>7.9 (79)</b>	62.1 (623)	17.1 (172)	<b>20.8 (209)</b>
[61–81)	Male	82.7 (1827)	10.5 (232)	<b>6.8 (150)</b>	64.1 (1417)	18.4 (407)	<b>17.4 (385)</b>
	Male as young	83.7 (1848)	5.6 (123)	<b>10.8 (238)</b>	66.8 (1476)	10.7 (236)	<b>22.5 (497)</b>
[81–max]	Male	87.0 (578)	7.5 (50)	<b>5.4 (36)</b>	70.0 (465)	15.5 (103)	<b>14.5 (96)</b>
	Male as young	82.1 (545)	2.7 (18)	<b>15.2 (101)</b>	64.5 (428)	7.8 (52)	<b>27.7 (184)</b>