

Nierfunctie en pillen

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Waarom wil je de nierfunctie weten

Onderschatting nierfunctie

Je geeft te weinig: CAVE efficacy

Overschatting nierfunctie:

- Je geeft te veel: CAVE safety
- CAVE nefrotoxische middelen
- Behandel complicaties nierfunctieverlies
- CAVE elektrolyten

Onderschatting nierfunctie

Bodybuilders

Trimethoprim/Cimetidine

Geen steady state: NF verbeterd

Hyperfiltratie

Obesen

Zwangeren

Intensive Care

Table 1 Comparison of patients with and without augmented renal clearance during anti-infective treatment^a

	Total study population (n = 128)	no ARC (n = 62)	ARC (n = 66)	P
Age (yr)	59.0 (49.0-67.8)	65.5 (56.8-77.0)	54 (44.0-61.0)	<.001*
APACHE II-score	18.0 (13.0-23.8)	20 (14.0-25.0)	17 (12.0-21.0)	.067
Male gender	86 (67.2%)	38 (61.3%)	48 (72.7%)	.191
SICU admission	76 (59.4%)	34 (54.8%)	42 (63.6%)	.369
<i>Type of infection</i>				
Pneumonia	74 (57.8%)	34 (54.8%)	40 (60.6%)	.592
Abdominal infection	12 (9.4%)	6 (9.7%)	6 (9.1%)	.999
Blood stream infection	4 (3.1%)	2 (3.2%)	2 (3.0%)	.999
Urinary tract infection	4 (3.1%)	2 (3.2%)	2 (3.0%)	.999
<i>Prophylaxis</i>	23 (18.0%)	13 (21%)	10 (15.2%)	.491
<i>Outcomes</i>				
ICU LOS (d)	4.6 (2.2-11.1)	3.9 (1.9-7.8)	5.1 (3.0-14.8)	.030*
ICU Mortality	8 (6.3%)	5 (8.2%)	3 (4.5%)	.479

ARC is defined as a 24-hour urinary creatinine clearance >130 mL/min per 1.73 m² for at least one day during ICU stay; LOS = length of stay; (S)ICU = (surgical) intensive care unit.

^a Data expressed as number (percentage) or median (interquartile range).

Augmented renal clearance in adult ICU patients

Table 2 Variables associated with augmented renal clearance (logistic regression, multivariate analysis)

Factor	OR	95% CI	P
Age (/yr)	0.923	0.887-0.961	<.001*
APACHE II score	1.005	0.945-1.068	.886
Male gender	2.569	1.027-6.424	.044*

95% CI = 95% confidence interval.

Hosmer-Lemeshow: $\chi^2 = 7.897$, $df = 8$, $P = .444$.

Augmented renal clearance is a 24-hour urinary creatinine clearance >130 mL/min per 1.73 m².

Table 3 Drug therapeutic failure rates between ARC and non-ARC patients for often used antimicrobials

	No ARC	ARC
No. of patients with failure	8/62 (12.9%)	18/66 (27.3%)
n failures/n patients on selected antimicrobial therapy (%)		
Amoxicillin/ clavulanic acid	1/24 (4.2)	8/25 (32.0)
Cefuroxim	2/11 (18.1)	5/23 (21.7)
Piperacillin/ tazobactam	2/17 (11.8)	6/19 (31.6)
Meropenem	2/7 (28.6)	2/8 (25.0)

ARC: Augmented renal clearance is a 24-hour urinary creatinine clearance >130 mL/min per 1.73 m².

Overschatting nierfunctie

Te weinig spiermassa

Geen steady state nierfunctie gaat achteruit

Overschatting nierfunctie:

- Je geeft te veel: CAVE safety
 - Smalle Therapeutische index
 - Hoge doseringen
- CAVE nefrotoxische middelen
 - Contrast
 - NSAID
 - RAS remmers (liefst fosinopril, geen olmersartan)
- Behandel complicaties nierfunctieverlies
 - Renale osteodystrofie
- CAVE elektrolyten
 - K, H