



TDM a Honvéd ITO-n

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Honvéd KAITO



Audit – 1 hónap

A gyógyszerszintek fix célértékhez való viszonya, n=60

Antibiotikum	Céltartományt elért	Céltartományt nem ért el
Meropenem (>8 mg/l)	12 (42,9%)	16 (57,1%)
Piperacillin (>16 mg/l)	10 (58,8%)	7 (41,2%)
Ceftriaxon (>2mg/l)	14 (93,3%)	1 (6,6%)
ÖSSZESEN	36 (60%)	24 (40%)

MG 44é

04.08. interpositum, ascendens aneurysma, dissectio, kiterjedt
meropenem 3x1g

	18	19	21	25
AB Szint	31.9	23.3	39.4	3.8
GFR	15	10+IHD	8+IHD	18 CRRT 25ml/kg/h

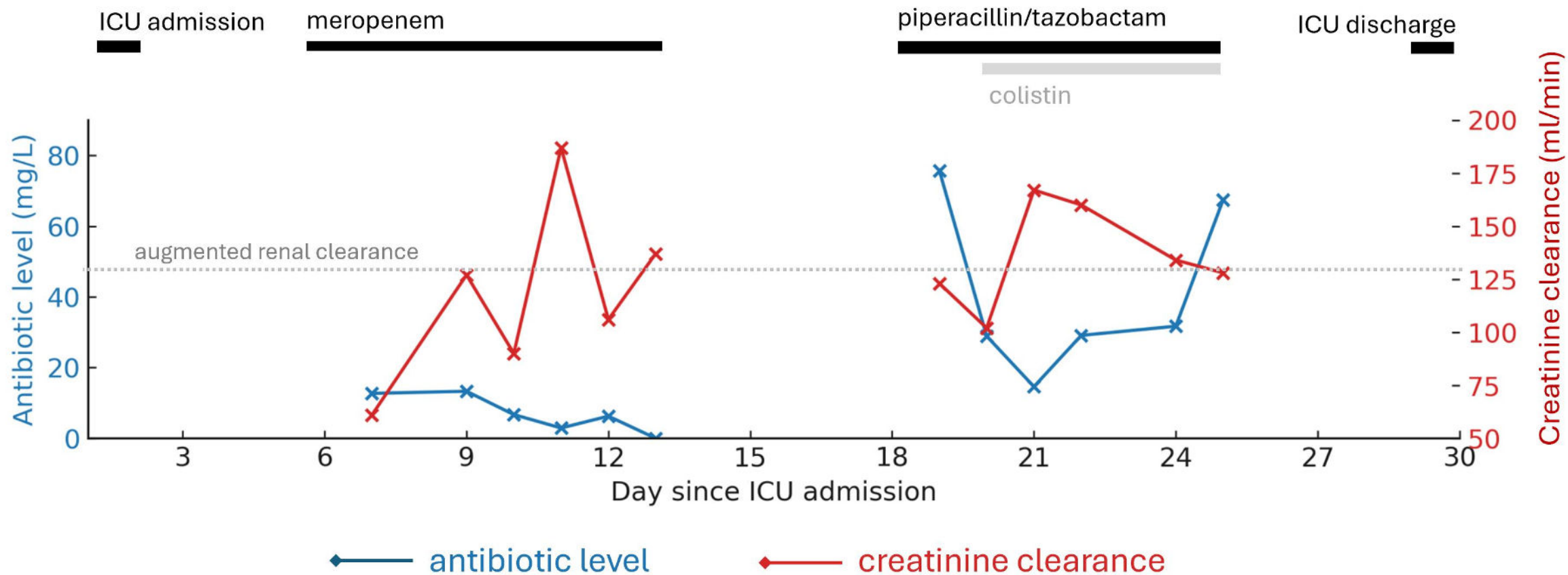
DVM 29é 11% égett

5. nap 3x1g meropenem, ESBL Klebsiella

dátum	12	13	14	17
meropenem	1.4	mérhetetlen	mérhetetlen	mérhetetlen
GFR	90	90	90	90

36 y/o M

- Polytrauma, B. cereus central line infection
- meropenem 3x2g
- Szint: mérhetetlen
- creatinine clearance **292 ml/min/m²**
- augmented renal clearance: **130+**



PK/PD target	Overall (n=84 samples)	ARC (n=21 samples)	No-ARC (n=63 samples)	Odds ratio (95% CI)	p-value
100% fT > 1× isolate MIC	78 (92.9%)	15(71.4%)	63(100.0%)	OR <0.1* [0.00 - 0.38]	p<0.001
100% fT > 4x isolate MIC	71(84.5%)	15(71.4%)	56(88.9%)	OR 0.31, [0.09 - 1.07]	p=0.079
100% fT > 1x breakpoint MIC	55(65.5%)	8(38.1%)	47(74.6%)	OR 0.21 [0.07 - 0.60]	p=0.004
100% fT > 4x breakpoint MIC	17(20.2%)	1(4.8%)	16(25.4%)	OR 0.15 [0.02 - 1.18]	p=0.058

55 éves férfi

- Pericarditis, krónikus májelégtelenség
- Akut hasi sepsis és kard. dekomp.
- Nagy lokulált ascites, 6l, Streptococcus anginosus
- Tazocin 4x4.5g
- Vér: piperacillin 83mg/l, ascites 40.7mg/l

37 éves nő

- Pneumonia, Empyema, rossz szociális állapot
- Ceftriaxon 2x2g
- Vér: 20.5 mg/l -> **2.03** (szabad)
- empyema 25.7 mg/l -> **2.94** (szabad)

42 éves nő

- TBI, perzisztens magas ICP, EVD-ventriculitis, Pseudomonas aeruginosa, MIC 0.25
- meropenem 3x2g
 - Vér 1.1 és 9.0 -> LQ 0, 0
- Meropenem 3x3g
 - Vér 25, LQ 3.3

TDM miért?

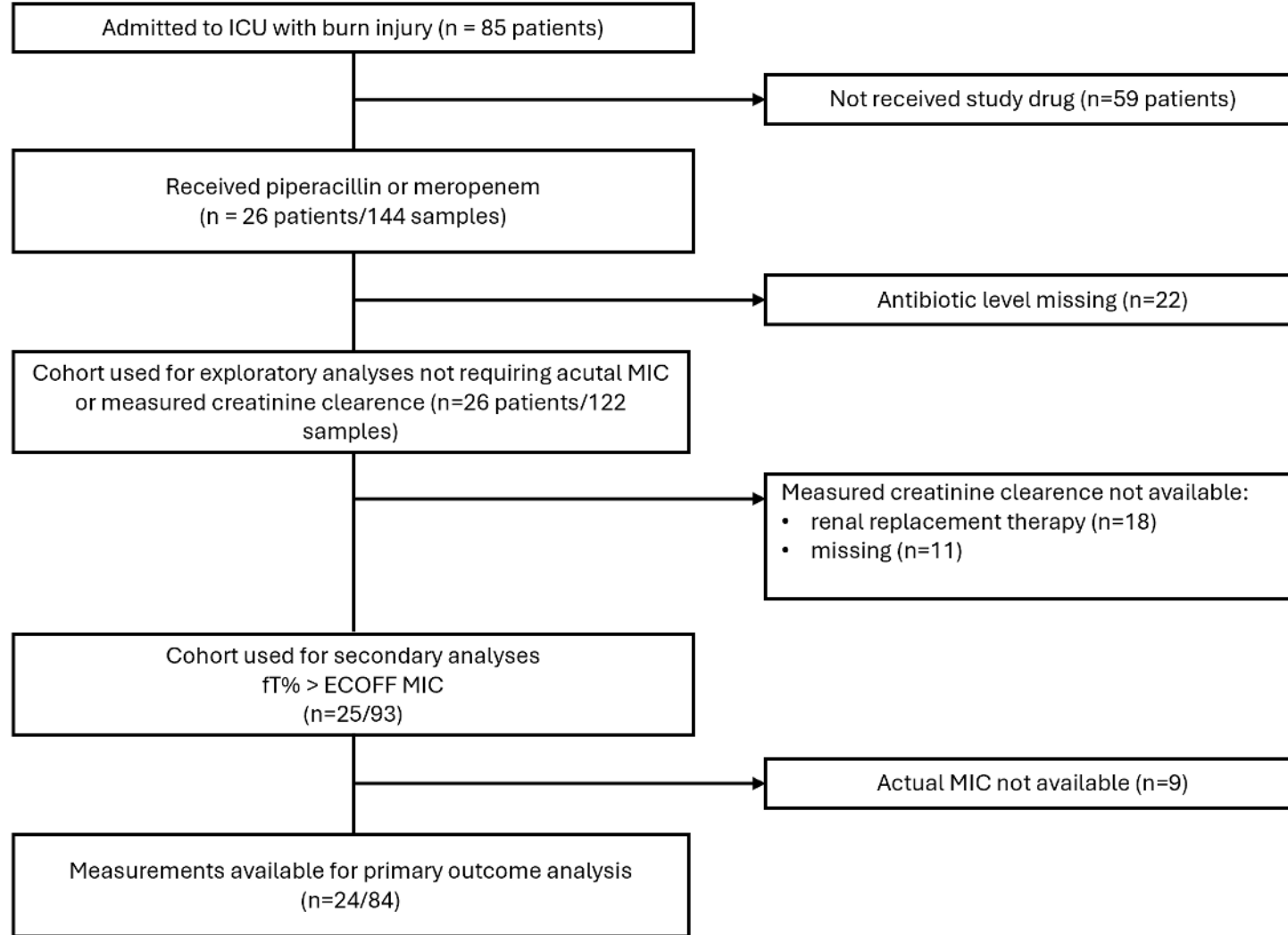
- Sokféle beteg
- Rapid változó szervfunkció
- Extrakorporeális eszközök
- Miért ne?



Kérdések

- PK/PD cél?
- Melyik betegnél?
- 24 órás infúzió?
- logisztika





Characteristic	Value
Age (years, median, IQR)	41.5 (33.3 – 57.3)
Male sex (n, %)	17 (70.8%)
Charlson comorbidity index (median, IQR)	0 (0-1)
APACHE II score (median, IQR)	15.5 (12.0 - 17.3)
Burn TBSA (% , median, IQR)	35 (22.6 - 49.3%)
Burn depth grade(n, %)	
I	10 (5.5-10.0)
II	26.5 (13.5 – 45.0)
III/IV	8 (4.5-19.0)
Inhalational injury (n, %)	5 (20.8%)
Renal function during ICU stay	
Any episode of ARC	11 (45.8%)
Any episode of AKI	11 (45.8%)
Both ARC and AKI	2 (8.3%)
Only ARC	9 (37.5%)
Only AKI	9 (37.5%)
Neither ARC nor AKI	4 (16.6%)
Characteristics of infectious episodes*	
Any bloodstream infection	19 (73.1%)
Catheter related bloodstream infection	7 (26.9%)
Skin and soft tissue source	10 (38.4%)
Respiratory source	8 (30.7%)
Intraabdominal source	1 (3.8%)

Breakpoint vs Valós MIC

	Bloodstream infection (count)	piperacillin MIC median (IQR) mg/L	meropenem MIC median (IQR) mg/L
Pseudomonas spp.	8	4.0 (2.00–8.00)	0.25 (0.25–1.125)
Enterobacter cloaceae	5	n/a*	0.024 (0.016–0.0867)
Enterobacter hormaechei	4	n/a*	0.25 (0.25–0.25)
Klebsiella spp.	3	n/a*	0.141 (0.032–0.25)
Serratia marcescens	3	n/a*	0.148 (0.097–0.199)
Escherichia coli	1	4.0 (4.0–4.0)	0.25 (0.25–0.25)

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Secondary outcomes					
100% fT > 4x isolate MIC	71(84.5%)	15(71.4%)	56(88.9%)	OR 0.31, [0.09 - 1.07]	p=0.079
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	ICU mortality		OR CI p
	died/all (%)		
	Patients with any subtherapeutic samples	Patients with all samples above PK/PD target	
100% fT>1× breakpoint MIC	0/12 (0.0%)	9/12 (75.0%)	OR 0.015 CI 0.0007–0.321 p<0.001
100% fT>4× breakpoint MIC	7/22 (31.8%)	2/2 (100.0%)	OR 0.097 CI 0.004–2.28 p=0.130
100% fT>1× isolate MIC	0/5 (0.0%)	9/19 (47.4%)	OR 0.10 CI 0.0049–2.07 p=0.118
100% fT>4× isolate MIC	0/7 (0.0%)	9/17 (52.9%)	OR 0.059 CI 0.0029–1.21 p=0.022

Merre tovább?

- TDM melyik betegnél?
- 24 órás adagolás (szinte) minden béta-laktámnál?
- Logisztika
- PK-PD cél?