

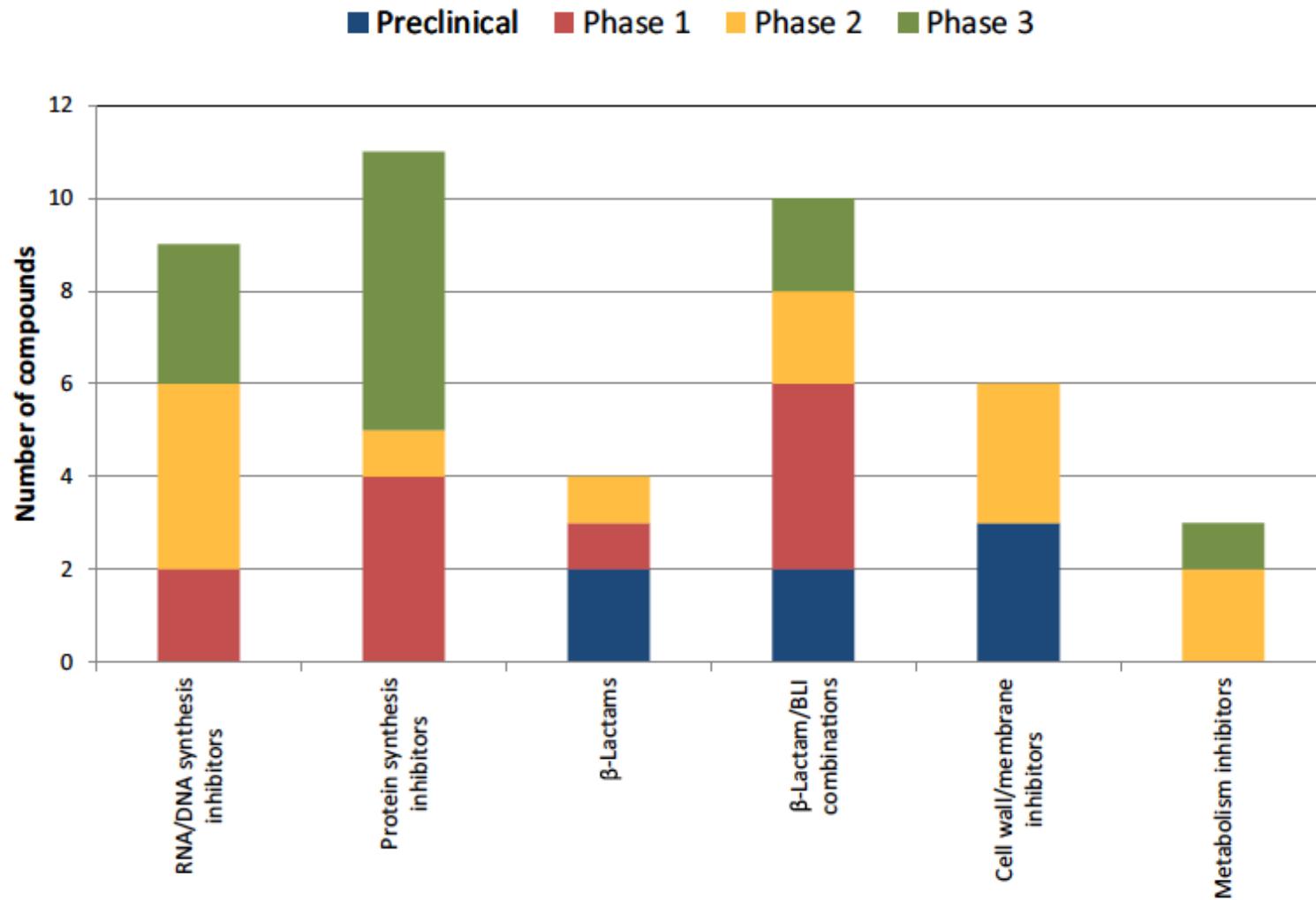
Próximamente en sus hospitales: antibióticos que llegarán en breve

Ilustre Colegio Oficial de Médicos de Madrid
1 de diciembre 2017



Oriol Gasch
Hospital Universitari Parc Taulí. Sabadell

Próximamente en sus hospitales: antibióticos que llegarán en breve



Enterobacterias productoras de carbapnemasas

Enterobacterias hiperproductoras de AmpC

Enterobacterias productoras de BLEE

Pseudomonas aeruginosa multirresistente

Acinetobacter baumanii multirresistente

Figure 3.12. *Klebsiella pneumoniae*. Percentage (%) of invasive isolates with combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides, by country, EU/EEA countries, 2016

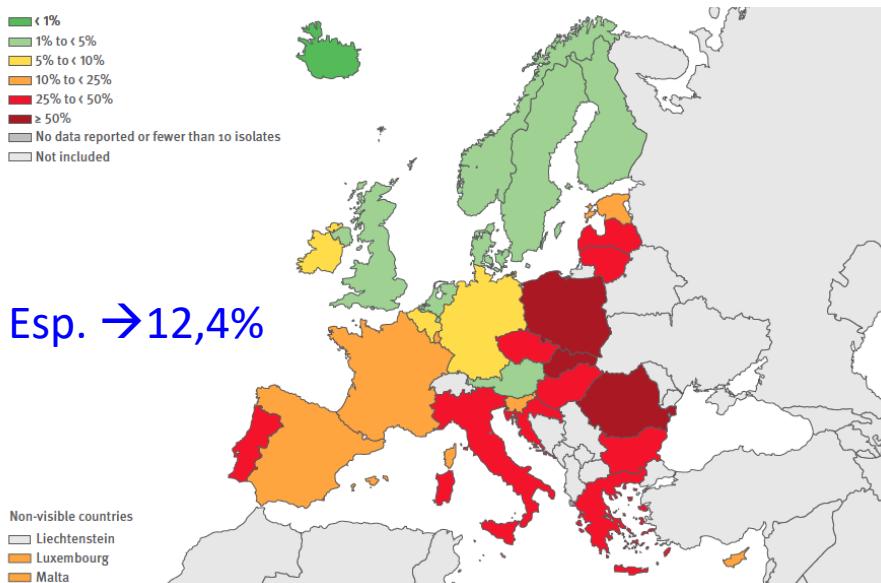
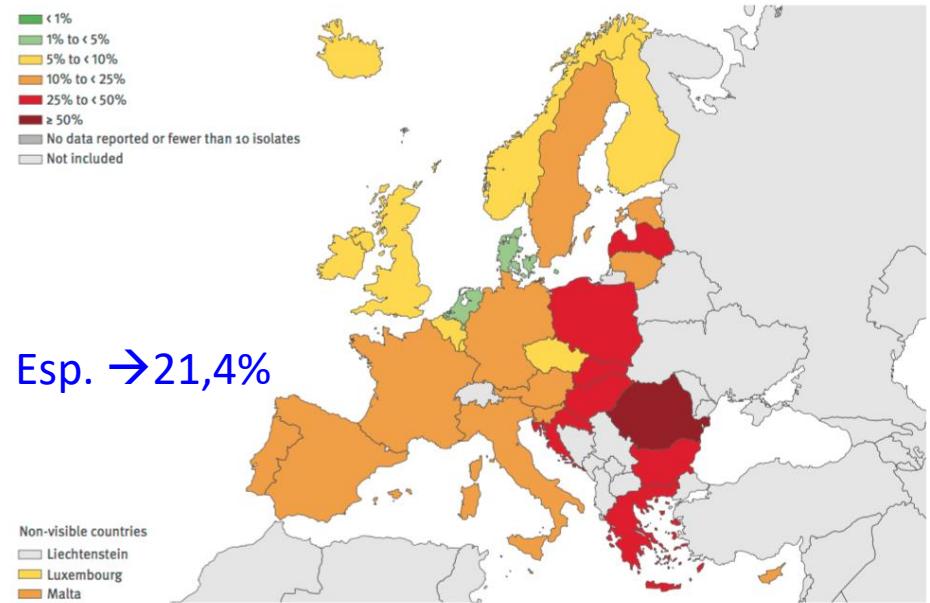


Figure 3.17. *Pseudomonas aeruginosa*. Percentage (%) of invasive isolates with resistance to carbapenems, by country, EU/EEA countries, 2016



LETTERS TO THE EDITORS

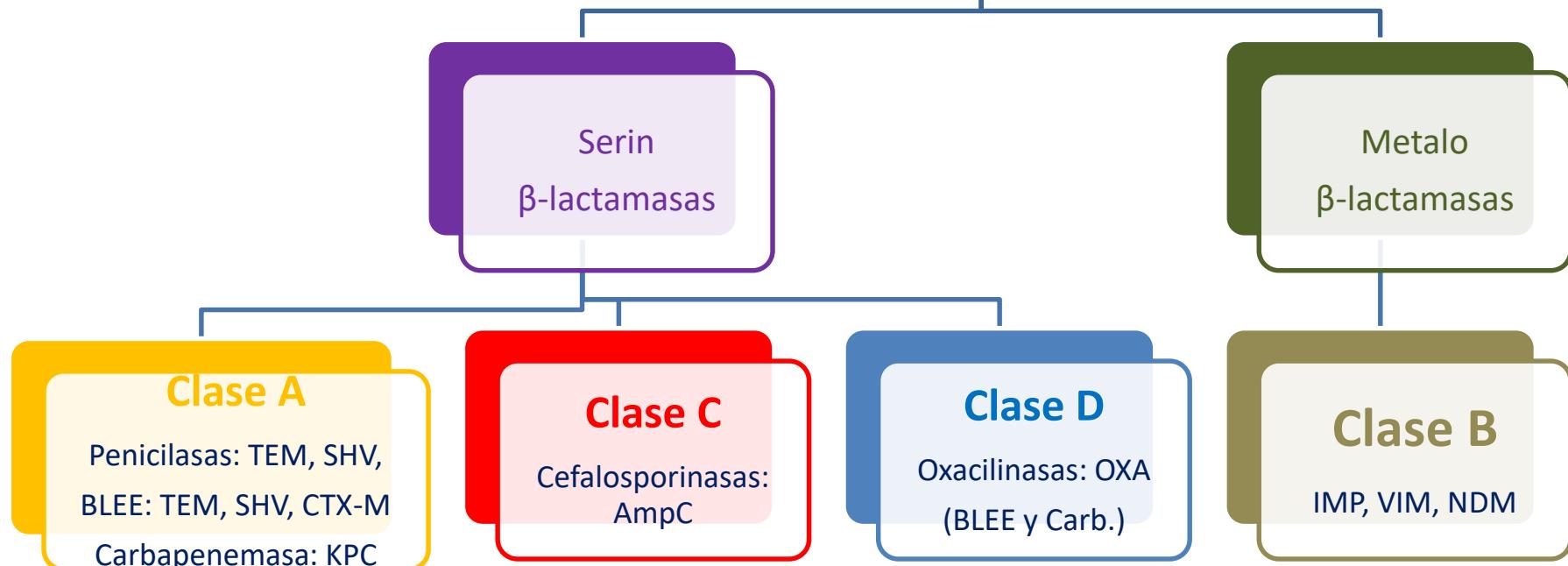
The Editors do not hold themselves responsible for opinions expressed by their correspondents. They cannot undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.

IN THE PRESENT CIRCUMSTANCES, PROOFS OF "LETTERS" WILL NOT BE SUBMITTED TO CORRESPONDENTS OUTSIDE GREAT BRITAIN.

An Enzyme from Bacteria able to Destroy Penicillin

B. coli, it was not noted in the bacterial mill from it; the latter

β-lactamasas



Tratamiento frente a BGN multirresistentes

βlactámicos-inhibidor de βlactamasas (sulbactam, tazobactam, clavulámico)

Aztreonam

Cefalosporinas de 3a y 4a generación

Carbapenems

Quinolonas

Trimetoprim/sulfametoxzazol

Aminoglucósidos

Colistina

Fosfomicina

Ceftolozano/tazobactam

Tigeciclina

Doripenem

Ceftazidima/avibactam

2000

2002

2004

2006

2008

2010

2012

2014

2016

2018

Próximamente en sus hospitales: antibióticos que llegarán en breve

βlactámicos-inhibidor de βlactamasas

Imipenem/cilastatina/relebactam

Ceftarolina/avibactam

Aztreonam/avibactam

Meropenem/vaborbactam

Cefiderocol

Plazomicina

Ervaciclina

BAL30072 (+ meropenem)

RG6080 (+ βlactámico)

AAI101 (+ cefepime)

RG6080

Zidebactam

AAI101 (+ cefepime)

WCK 4282 (CEP-TAZ)

WCK 4234 (+ meropenem)

ETX2514 (+imipenem)

ETX2514 (+sulbactam)

Murepavadin (POL7080)

SPR741

FADDI-287

Finafloxacino

Delafloxacino

Omadacyclina

Iefamulina (BC-3781)

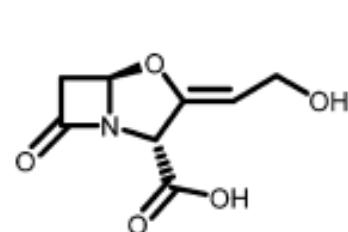
KBP-7072

TP-271

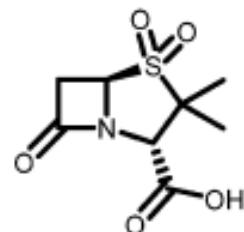
Nuevos inhibidores de las betalactamas

F. Perez Expert Opinion on Pharmacotherapy, 2016;17(6):761-81

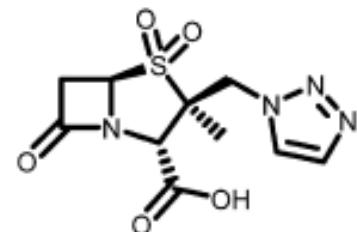
Avibactam y **Relebactam** tienen una estructura en común: diazabicyclooctano



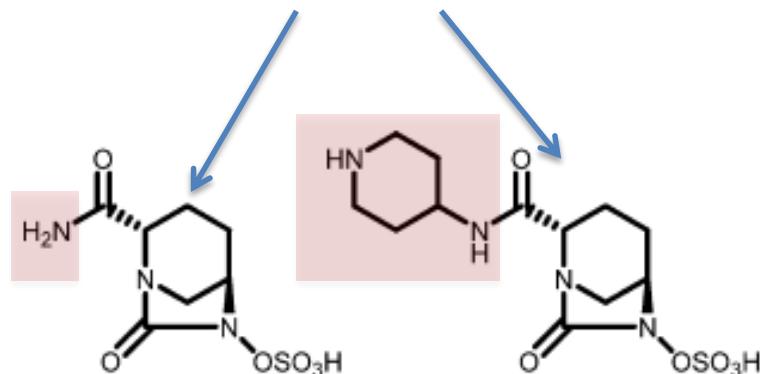
clavulanic acid



sulbactam



tazobactam



avibactam

relebactam

Avibactam

Ceftazidima
Aztreonam
Ceftarolina

Relebactam

Imipenem

IBL no betalactámicos

Unión reversible al residuo serina de las βlactamas

Excreción renal

Imipenem/cilastatina/relebactam

Actividad *in vitro*

Livermore. J Antimicrob Chemother 2013; 68: 2286–2290

Table 2. MIC distributions of imipenem with and without MK-7655

Activa → *P. aeruginosa* con déficit de OprD o AmpC

No activa → *P. aeruginosa* productora de VIM o IMP
A. baumannii
S.maltophilia (solo 2/11 cepas)

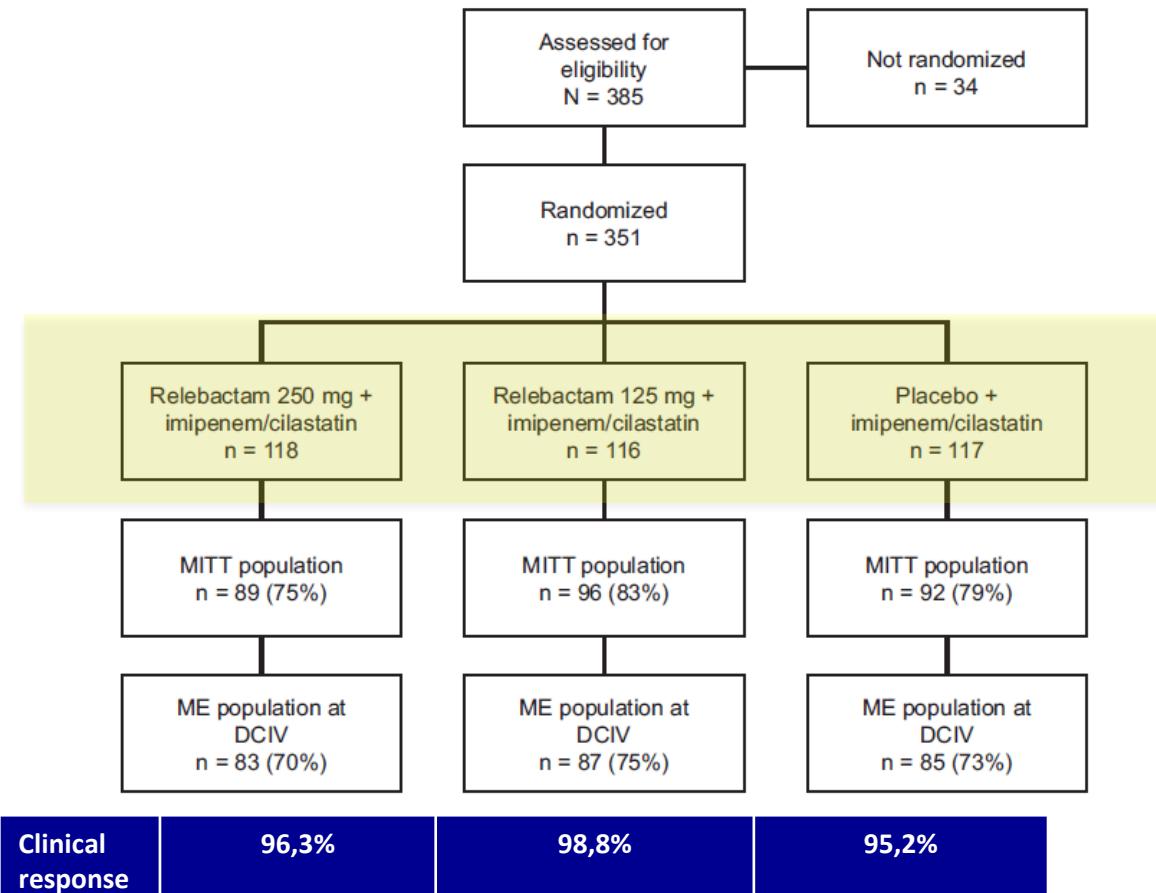
Imipenem/cilastatina/relebactam

Eficacia en humanos

Lucasti C, 2016.

Antimicrob Agents Chemother 60:6234 –6243.

Phase 2, Dose-Ranging Study of Relebactam with Imipenem-Cilastatin in Subjects with Complicated Intra-abdominal Infection



Clinical response	96,3%	98,8%	95,2%
-------------------	-------	-------	-------

- (*) Sin diferencias significativas en eficacia o efectos secundarios graves (los más frec: náusea, vómitos y diarrea)

Imipenem/cilastatina/relebactam

Eficacia en humanos

Ensayos clínicos Fase III en marcha:

- 1) *Efficacy and Safety of IMI/REL vs IMI/COL in IMI-Resistant Bacterial Infection (RESTORE-IMI 1)* ([ClinicalTrials Id: NCT02452047](#))

- 2) *IMI/REL vs PIP/TAZ for Treatment of Participants With HAP/VAP Pneumonia (RESTORE-IMI 2)* ([ClinicalTrials Id: NCT02493764](#))

Nuevos inhibidores de las betalactamas

Avibactam

Ceftarolina-avibactam

Similar a ceftazidima-avibactam, con limitada actividad frente a BGN no fermentadores
Activa frente a SARM, VISA y *S pneumoniae*

A *Phase II Comparative Study of Coadministered Ceftaroline Fosamil and NXL104 vs. Doripenem in Adult Subjects With Complicated UTI* ([ClinicalTrials Id: NCT01281462](#))

Aztreonam-avibactam

AZT es activo frente MBL

Avibactam confiere actividad frente a BLEEs, AmpC y KPC pero no mejora su actividad frente a BGN no fermentadores

A *Phase II Determine the PK and Safety and Tolerability of ATM-AVI for the Treatment of cIAIs in Hospitalized Adults (REJUVENATE)* ([ClinicalTrials Id: NCT02655419](#))

A *Phase III Determine the Efficacy, Safety and Tolerability of ATM-AVI ± Metronidazole vs MER ± COL for the Treatment of Serious Infections Due to Gram Negative Bacteria. (REVISIT)* ([ClinicalTrials Id: NCT03329092](#))

Tabla resumen

	Enterobact. BLEE	Enterobact. AmpC	Enterobacteriaceae prod. Carbapenemasas			<i>P.aeruginosa</i> MDR	A. <i>baumanii</i> CR
			KPC	OXA	MBL		
Imipenem/ relebactam	+	+	+	+/-	NO	+/-	NO
Aztreonam/ avibactam	+	+	+	+	+	NO	NO
Ceftarolina/ avivactam	+	+	+	+/-	NO	NO	NO

Meropenem/vaborbactam

SJ. Hecker. J. Med. Chem. 2015, 58, 3682–3692

Biochem. J. (1978) 169, 197–204
Printed in Great Britain

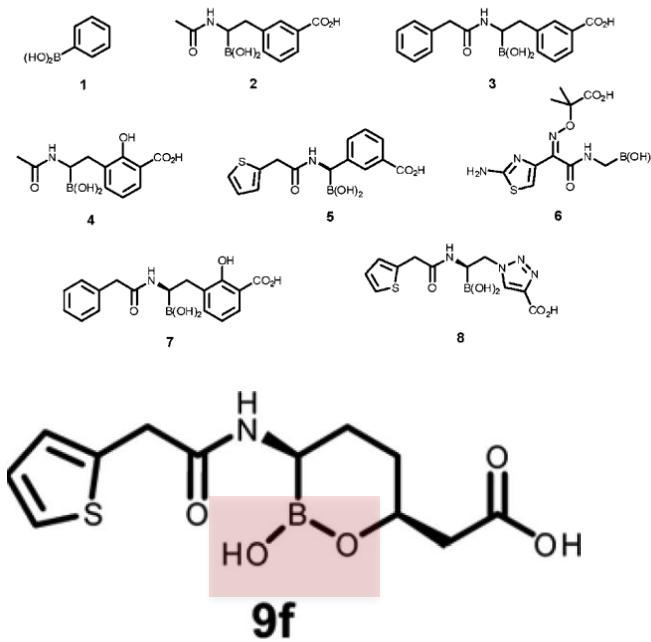
Reversible Inhibitors of Penicillinases

By PETER A. KIENER and STEPHEN G. WALEY
Sir William Dunn School of Pathology, University of Oxford, Oxford OX1 3RE, U.

(Received 24 June 1977)

Reversible competitive inhibitors of a penicillinase, β -lactamase I from *Bacillus cereus*, were studied. These represent the first inhibitors of a penicillinase that lack the β -lactam ring. The products of the enzymic reaction, namely penicilloic acids, are inhibitors; their decarboxylation products, the penilloic acids, are also inhibitors, and have somewhat lower K_i values. Inhibitors have been prepared from benzylpenicillin, phenoxyethylpenicillin, methicillin (2,6-dimethoxybenzamidopenicillanic acid) and 3-hydroxy-4-nitrobenzamidopenicillanic acid. Decarboxylation of the penicilloic acids from benzylpenicillin, or from phenoxyethylpenicillin, leads to epimerization (at C-5) of the penilloic acid. Nuclear-magnetic-resonance spectroscopy at a frequency of 270 MHz can distinguish the epimers. Other competitive inhibitors studied were boric acid, benzeneboronic acid and *m*-aminobenzeneboronic acid. Boric acid itself was the best inhibitor of β -lactamase I so far found.

Figure 1. Currently marketed and promising new β -lactamase inhibitors.



Inhibidor de serin- β -lactamasas
Estructura cíclica de ácido borónico
Crea una unión entre el ácido borónico y el residuo serina de la β -lactamasa

Meropenem/vaborbactam

Actividad *in vitro*

Lapuebla A., AAC. 2015, 59:4856 –4860

TABLE 1 Susceptibility patterns of meropenem in combination with RPX7009 and other antibiotics against carbapenem-resistant organisms in New York City

Drug(s)	MIC ₅₀ (μg/ml)	MIC ₉₀ (μg/ml)	Range (μg/ml)
<i>K. pneumoniae</i> (KPC ⁺) (n = 121)			
Piperacillin-tazobactam	>128/4	>128/4	2/4 to >128/4
Ceftazidime	>16	>16	8 to >16
Gentamicin	>8	>8	0.5 to >8
Amikacin	32	64	≤0.5 to >64
Ciprofloxacin	>4	>4	≤0.125 to >4
Trimethoprim-sulfamethoxazole	>4	>4	≤0.5 to >4
Meropenem	8	64	0.25 to >64
Meropenem-RPX7009 (4 μg/ml)	0.06/4	2/4	0.008/4 to >64/4
Meropenem-RPX7009 (8 μg/ml)	0.03/8	0.5/8	≤0.004/8 to >64/8

<i>A. baumannii</i> (n = 84)			
Ampicillin-sulbactam	32/16	>32/16	4/2 to >32/16
Piperacillin-tazobactam	>128/4	>128/4	>128/4 to >128/4
Ceftazidime	>16	>16	4 to >16
Gentamicin	>8	>8	≤0.25 to >8
Amikacin	4	>64	1 to >64
Ciprofloxacin	>4	>4	≤0.125 to >4
Trimethoprim-sulfamethoxazole	>4	>4	≤0.5 to >4
Meropenem	32	64	4 to >64
Meropenem-RPX7009 (4 μg/ml)	32/4	64/4	0.25/4 to >64/4
Meropenem-RPX7009 (8 μg/ml)	32/8	64/8	1/8 to >64/8

<i>P. aeruginosa</i> (n = 98)			
Piperacillin-tazobactam	16/4	>128/4	16/4 to >128/4
Ceftazidime	8	>16	1 to >16
Amikacin	4	16	≤0.5 to >64
Ciprofloxacin	>4	>4	≤0.125 to >4
Meropenem	8	32	4 to >64
Meropenem-RPX7009 (4 μg/ml)	8/4	32/4	0.125/4 to >64/4
Meropenem-RPX7009 (8 μg/ml)	8/8	32/8	0.25/8 to 64/8

Meropenem/vaborbactam

Eficacia en humanos

OS0604. J Loutit. ECCMID 2017

Meropenem-Vaborbactam Phase 3 Clinical Program

	TANGO I	TANGO II
Features	<i>Site/Indication Focus</i>	<i>Pathogen-Focused</i>
Patients	Complicated UTI/AP (n=550)	cUTI/AP, cIAI, HABP, VABP and/or bacteremia known or suspected to be due to CRE
Design	Randomized 1:1 Double-blind	Randomized 2:1 Open-label
Comparator	Piperacillin-tazobactam	"Best available therapy"
Status	<i>Completed</i> (this presentation)	



Investors

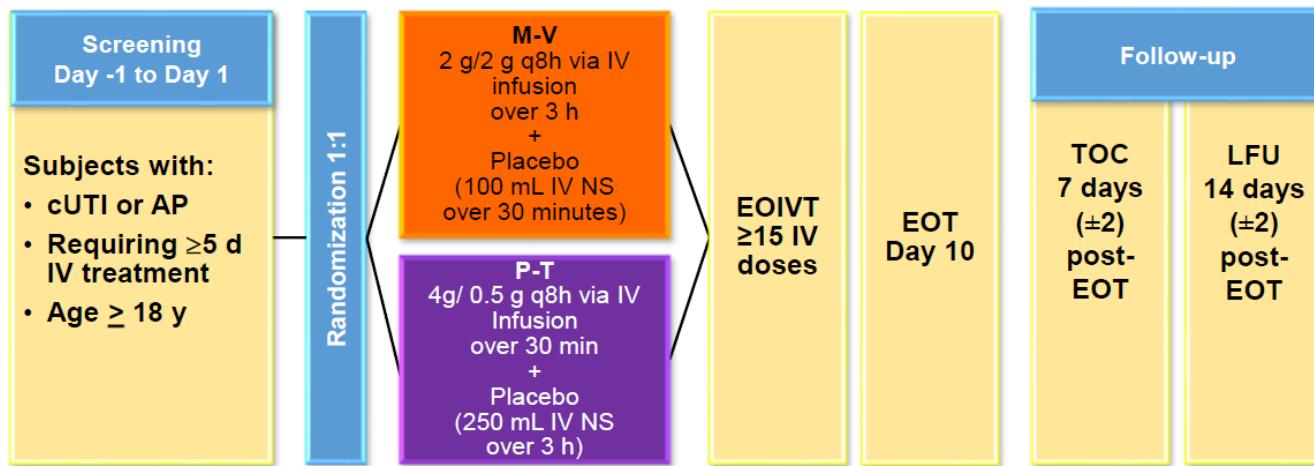
The Medicines Company announces TANGO-2 trial of meropenem-vaborbactam (formerly, Carbavance) stopped early for superior benefit-risk compared to best available therapy for CRE

Meropenem/vaborbactam

Eficacia en humanos

OS0604. J Loutit. ECCMID 2017

Efficacy, Safety, Tolerability of Meropenem-Vaborbactam Compared to Piperacillin-Tazobactam in Complicated Urinary Tract Infections (cUTIs), Including Acute Pyelonephritis (AP), in Adults



Primary Endpoints

Targeting Antibiotic Non-susceptible Gram-negative Organisms

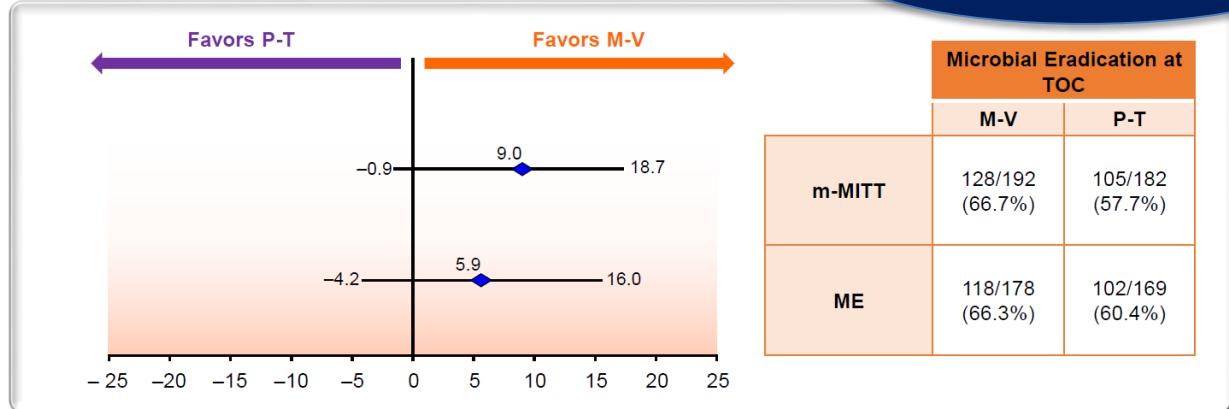
Criteria	Population	Achieved:	At:	Defined as:
FDA	m-MITT	Overall Success	EOIVT visit	Clinical cure or improvement, and eradication of baseline pathogen to <10 ⁴ CFU/mL
EMA	Co-primary: • m-MITT • ME	Microbiologic outcome of Eradication	TOC visit	Baseline pathogen(s) reduced to <10 ³ CFU/mL of urine

Meropenem/vaborbactam

Eficacia en humanos

OS0604. J Loutit. ECCMID 2017

EMA Co-Primary Endpoint at TOC



No inferioridad

FDA Primary Endpoint (mMITT)

	M-V N = 192	P-T N = 182
Overall Success at EOIVT	189/192 (98.4%)	171/182 (94.0%)
Difference (95% CI)		4.5 (0.7, 9.1)

No inferioridad
Incluso superioridad
estadística

(*) Buen perfil de efectos secundarios. Los más freq: cefalea (8.8%), diarrea (2.3%)

Tabla resumen

	Enterobact. BLEE	Enterobact. AmpC	Enterobacteriaceae prod. Carbapenemasas			<i>P. aeruginosa</i> MDR	<i>A. baumanii</i> CR
			KPC	OXA	MBL		
Imipenem/ relebactam	+	+	+	+/-	NO	+/-	NO
Aztreonam/ avibactam	+	+	+	+	+	NO	NO
Ceftarolina/ avivactam	+	+	+	+/-	NO	NO	NO
Meropenem/ vaborbactam	+		+	+/-	NO	NO	NO

Cefiderocol

Actividad *in vitro*

Ito-Horiyama T. AAC. 2016 60:4384–4386

Cefiderocol Cell Entry and Mechanism of Action

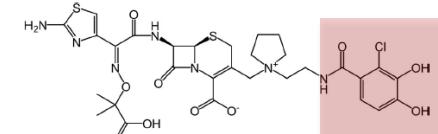
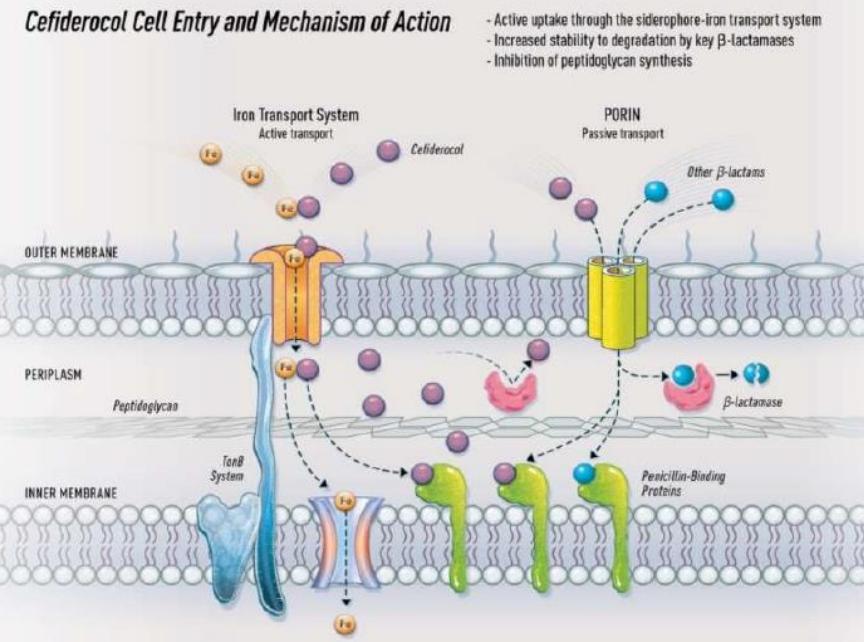


FIG 1 Chemical structure of S-649266.

Cefalosporina siderófora
 Entrada a través del transportador de Fe
 Unión a PBP3 de los BGN

El déficit de Fe provoca un incremento en su captación a través de la producción incrementada de transportadores

TABLE 1 MICs of S-649266 and other antibacterial agents against clinical strains with various β -lactamases

Species	β -Lactamase	No. of isolates	MIC range (μ g/ml)			
			S-649266 ^a	Ceftazidime	Cefepime	Meropenem
<i>Pseudomonas aeruginosa</i>	IMP-1	3	0.016 to 0.5	>256	256 to >256	128 to >256
	VIM-2	3	0.25 to 1	128 to 256	64 to 128	32 to 256
<i>Klebsiella pneumoniae</i>	NDM-1	4	0.5 to 2	>256	32 to >256	64 to 256
	KPC-2 or KPC-3	4	0.06 to 0.5	256 to >256	64 to >256	16 to 256
<i>Escherichia coli</i>	NDM-1	2	0.5 to 1	>256	64 to >256	16 to 32
<i>Stenotrophomonas maltophilia</i>	L1	3	0.125 to 0.5	128 to 256	64 to 128	128 to 256
<i>Acinetobacter baumannii</i>	OXA-23	5	0.03 to 0.5	128 to >256	16 to 128	16 to 32

^a Supplemented with 20 μ M human apotransferrin.

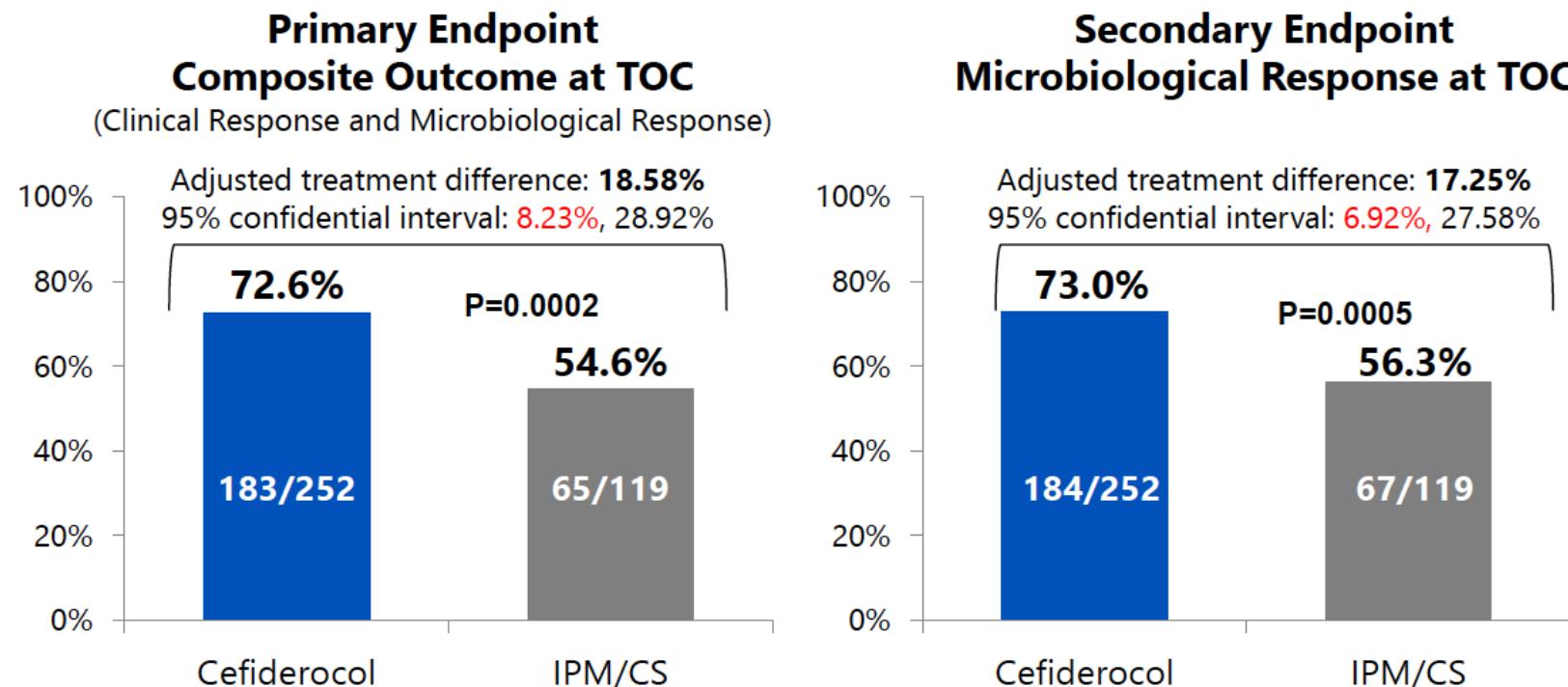
(*) No actividad frente GP o anaerobios

Cefiderocol

Eficacia en humanos

Portsmouth S. 27th ECCMID.
22 April 2017. OS0250D

Phase II. Cefiderocol Compared with Imipenem/Cilastatin in the Treatment of Adults with Complicated Urinary Tract Infections



Diseño de no-inferioridad, aunque sugiere superioridad
No efectos secundarios relevantes

Cefiderocol

Eficacia en humanos

Ensayos clínicos Fase III en marcha:

*A Phase III Study of S-649266 or Best Available Therapy
for the Treatment of Severe Infections Caused by
Carbapenem-resistant Gram-negative Pathogens
(EudraCT Nº: 2015-004703-23)*

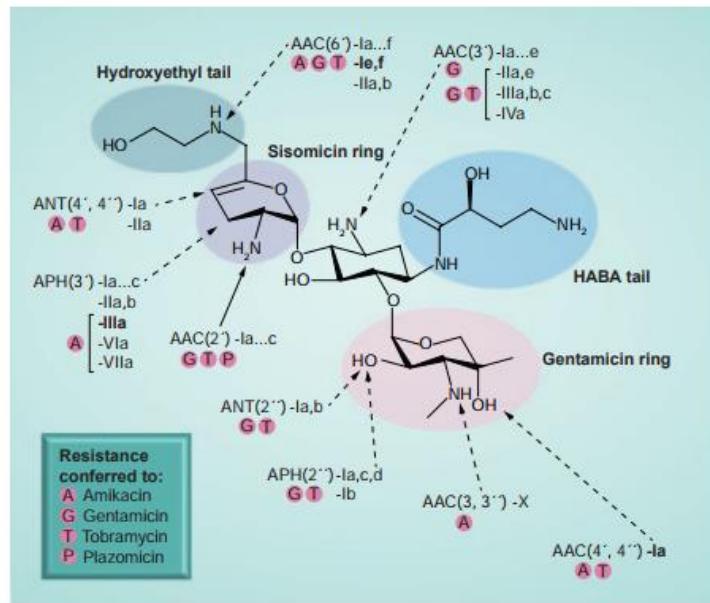
*A Phase III Clinical Study of S-649266 for the Treatment of
Nosocomial Pneumonia Caused by Gram-negative
Pathogens (EudraCT Nº: 2016-003020-23)*

Tabla resumen

	Enterobact. BLEE	Enterobact. AmpC	Enterobacteriaceae prod. Carbapenemasas			<i>P. aeruginosa</i> MDR	<i>A. baumanii</i> CR
			KPC	OXA	MBL		
Imipenem/ relebactam	+	+	+	+/-	NO	+	NO
Aztreonam/ avibactam	+	+	+	+	+	NO	NO
Ceftarolina/ avivactam	+	+	+	+/-	NO	NO	NO
Meropenem/ vaborbactam	+		+	+/-	NO	NO	NO
Cefiderocol	+		+	+	+	+	+

Plazomicina

Zhanel GG. Expert Rev Anti Infect Ther, 2012, 10(4), 459-473
 Livermore, J Antimicrob Chemother 2011; 66: 48-53



Aminoglucósido derivado de sisomicina
 Inhibición de la síntesis proteica

Actividad frente GP y GN

Sinergia con DAP, Ceftobiprole vs *S. aureus*
 con CEP, IMI, PIP-TAZ vs *P.aeruginosa* y *A. baumanii*

Buena actividad → ESBL, KPC o VIM, IMP

(*) Activa frente enzimas modificadoras de los AG (AMEs)

(*) No es activa frente metiltransferasa ribosomal

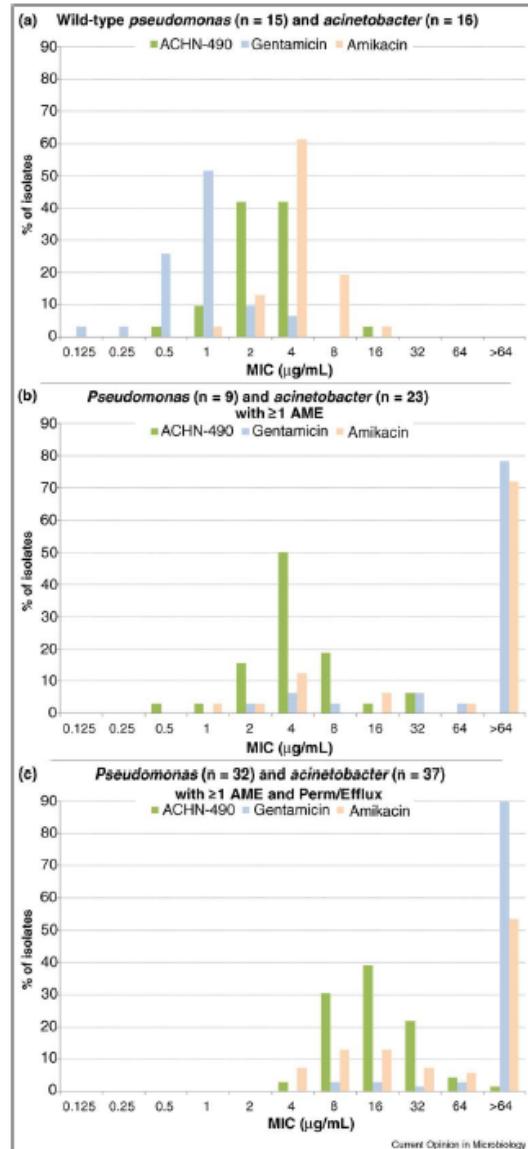
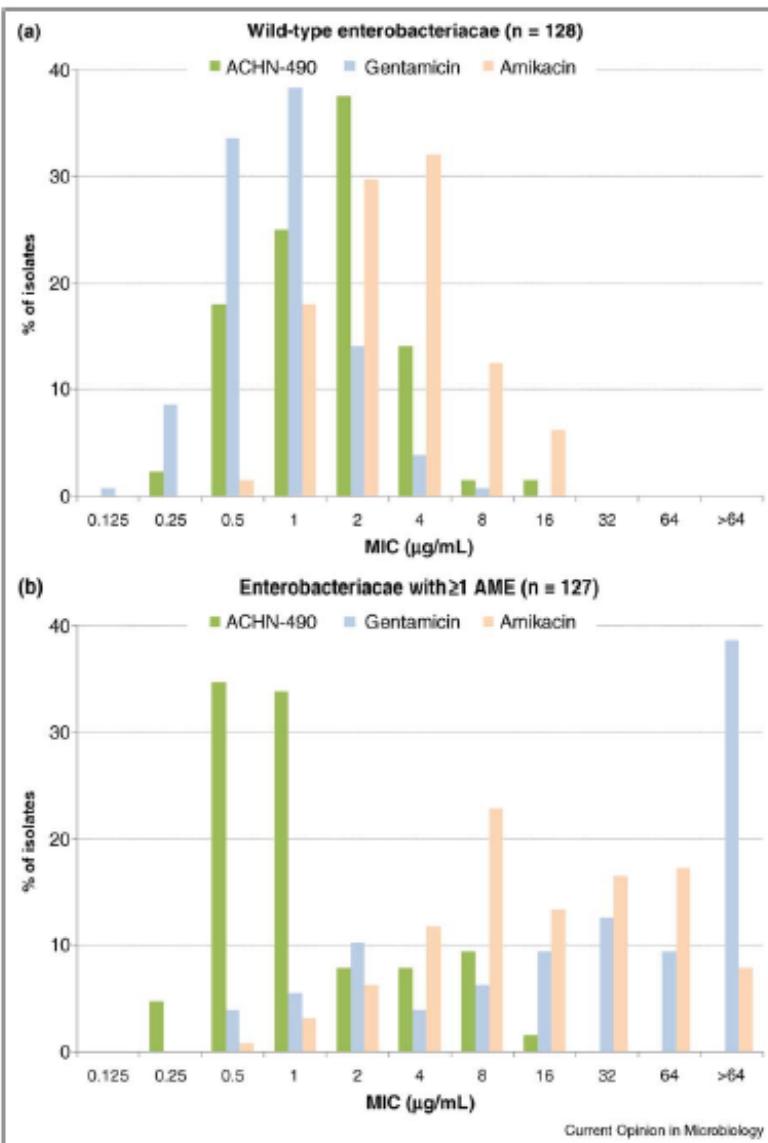
Enzymes produced (no. isolates)	MIC (mg/L)											
	≤0.12	0.25	0.5	1	2	4	8	16	32	64	128	≥256
ACHN-490												
KPC (12)	1	5	6									
SME-1				1								
IMP (13)	1	9	3									
NDM-1 (17)		1								1	5	10
VIM (5)		3		1	1							
OXA-48 (19)	1	17					1					
ESBL + impermeability (10)	1	8	1									
AmpC + impermeability (5)		3	2									

NDM+ rRNA metilasa

Plazomicina

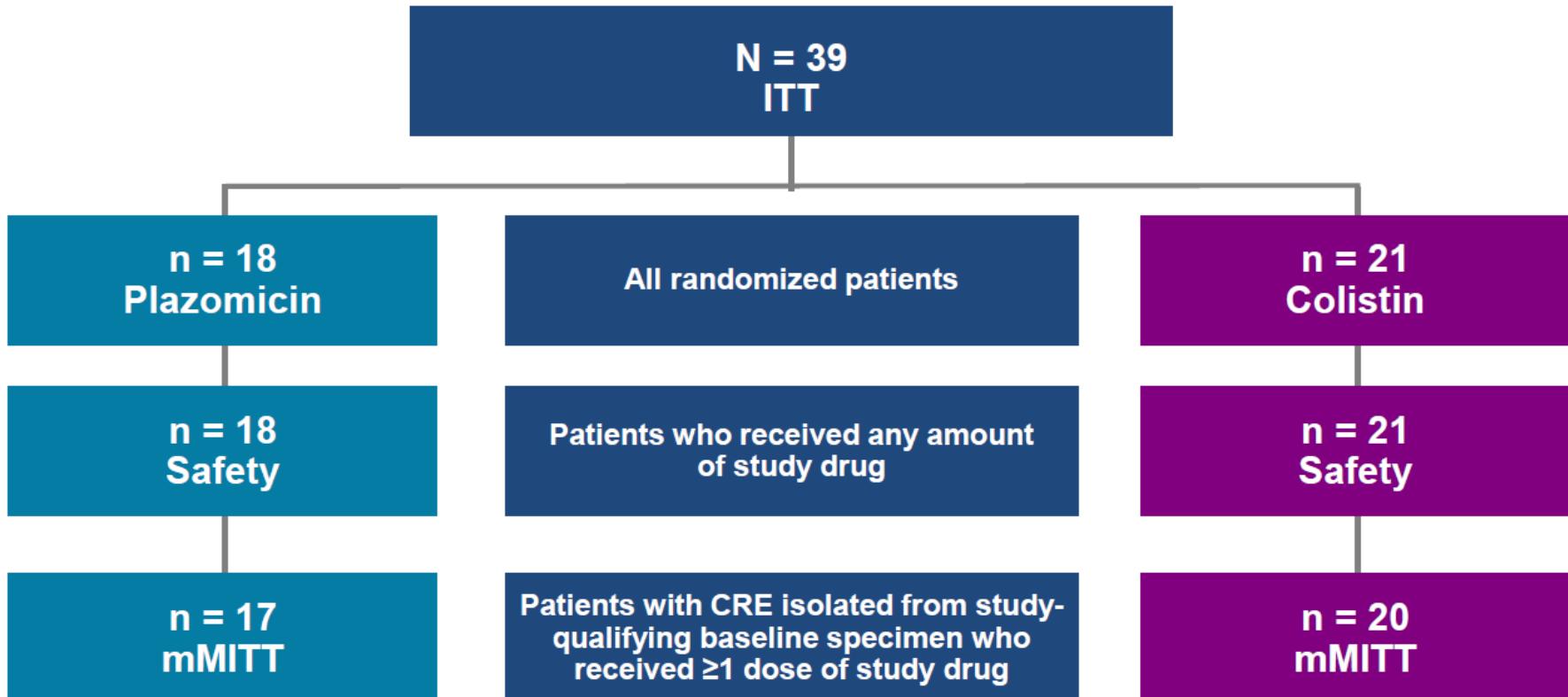
Actividad *in vitro*

ES Armstrong.
Current Opinion in Microbiology,
2010,13:565–573



Plazomicina Eficacia en humanos

A Phase 3, Multicenter, Randomized, Open-Label Study to Evaluate
the Efficacy and Safety of Plazomicin Compared with Colistin in
Patients with Infection due to Carbapenem-Resistant
Enterobacteriaceae (CRE) (CARE)

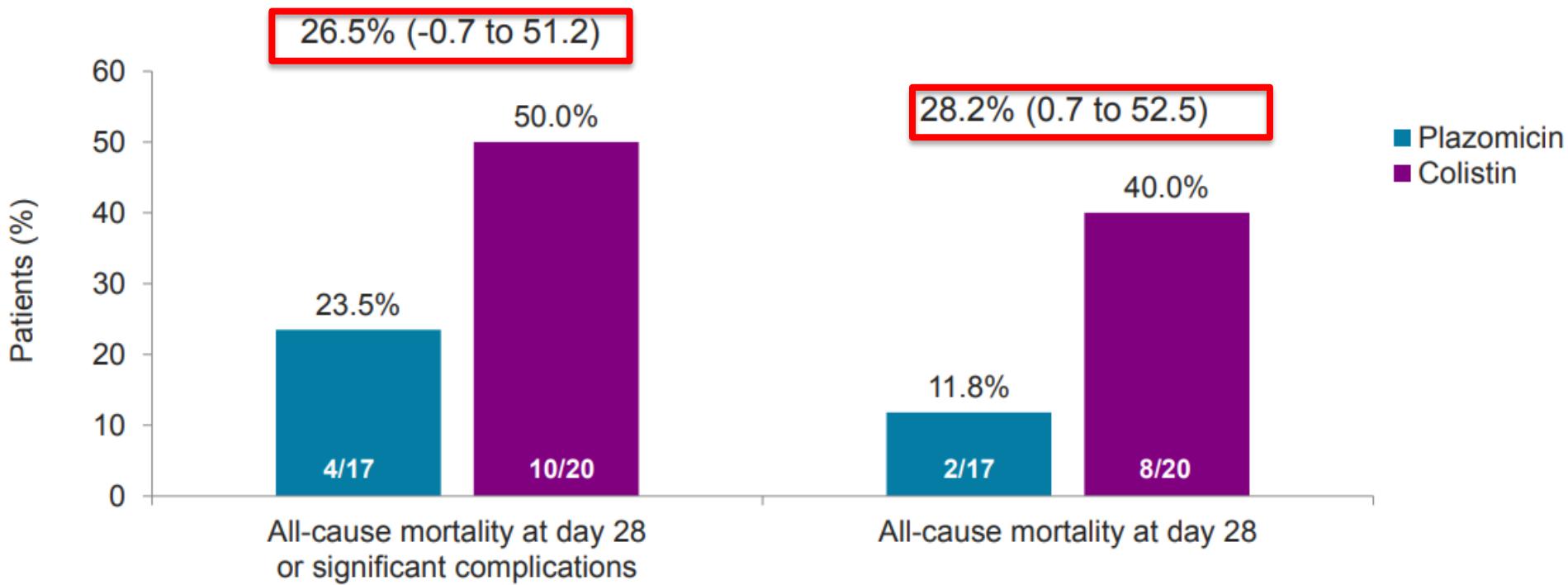


Plazomicina

Eficacia en humanos

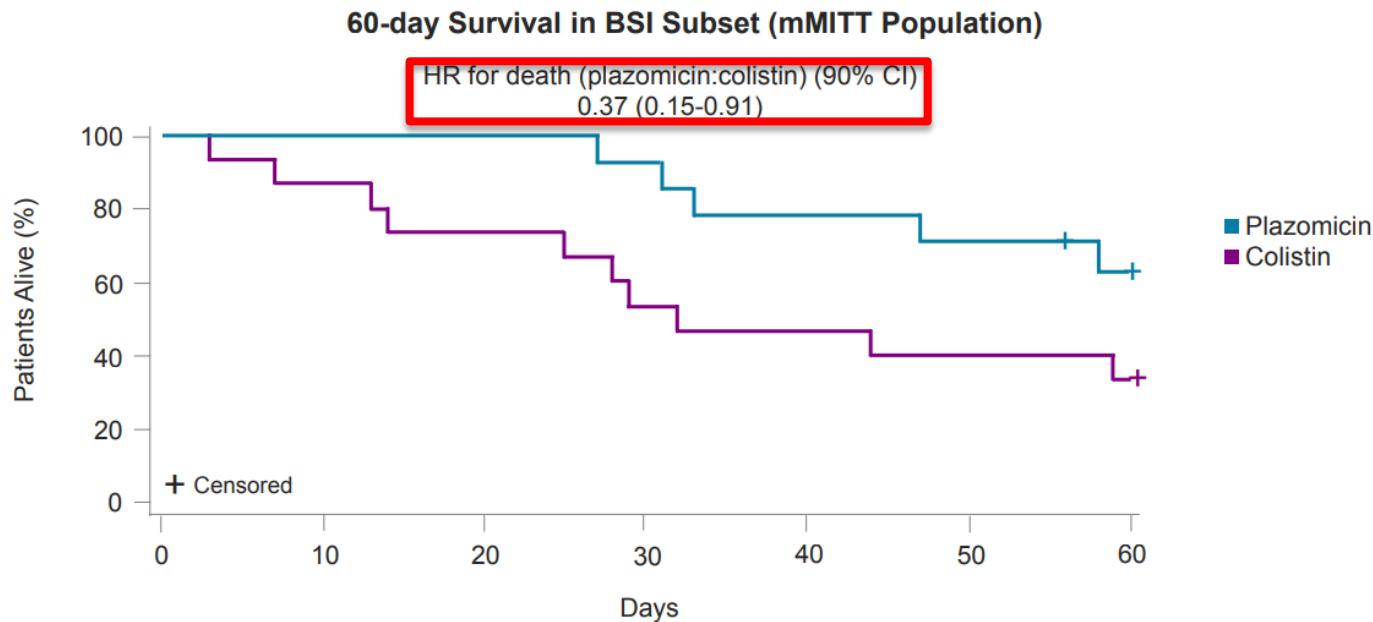
BSI and HABP/VABP (mMITT Population)

Difference (colistin minus plazomicin) (90% CI)



Plazomicina

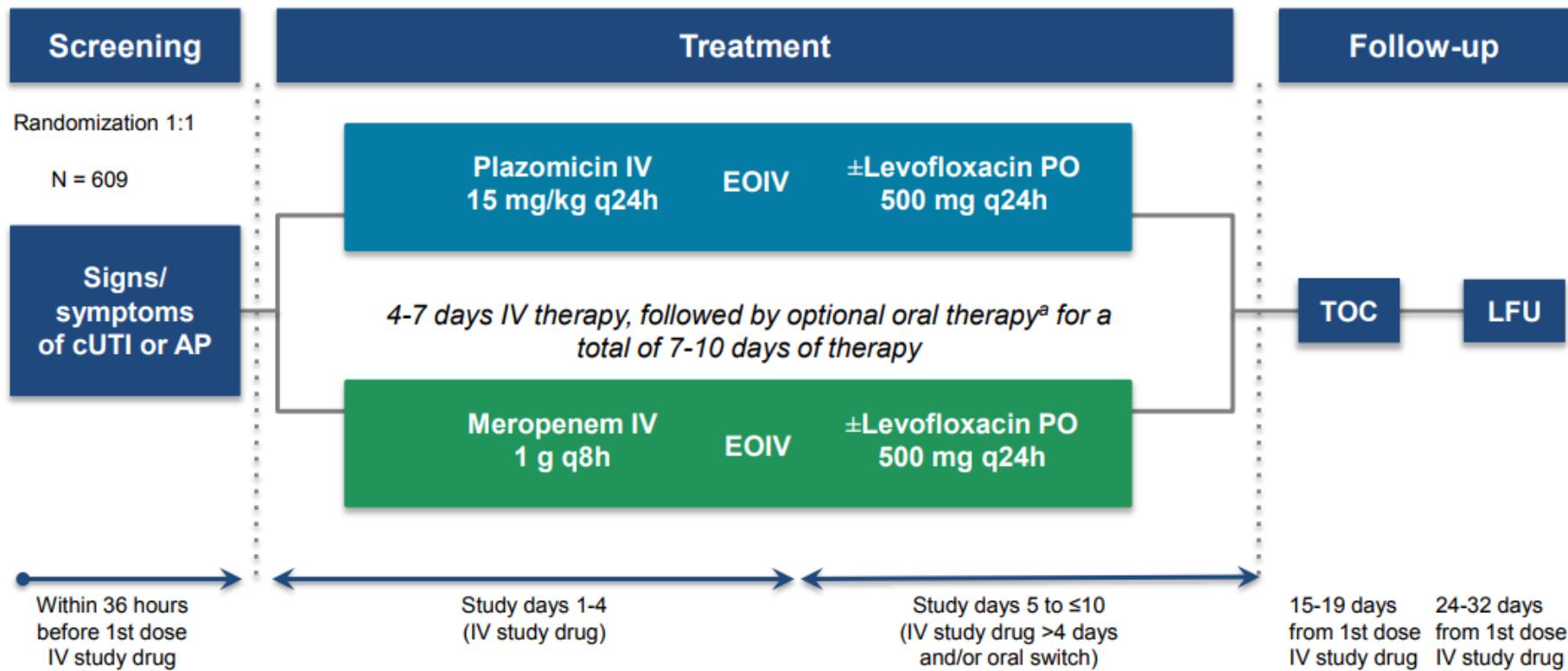
Eficacia en humanos



Serum Creatinine (Safety Population) ^a	Plazomicin (N = 18) n/N1 (%)	Colistin (N = 21) n/N1 (%)
≥0.5 mg/dL increase any time on study (including on or post IV therapy)	2/12 (16.7)	8/16 (50.0)
≥0.5 mg/dL increase while on IV therapy	1/12 (8.3)	6/16 (37.5)
Full recovery or improvement ^b	1/1	3/6

Plazomicina Eficacia en humanos

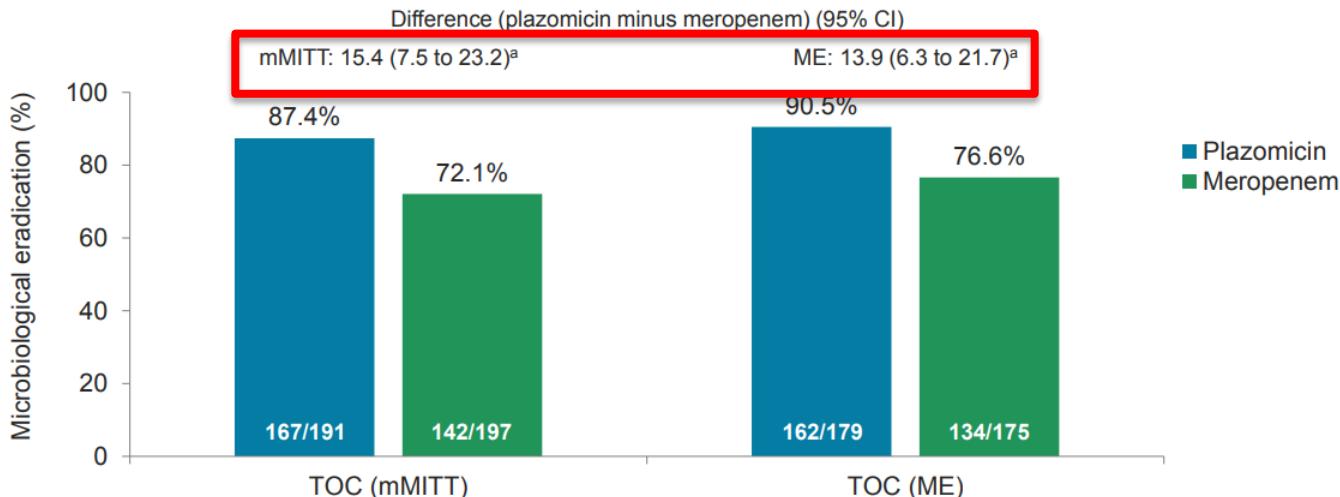
A Phase 3, Randomized, Multicenter, Double-blind Study to Evaluate the Efficacy and Safety of Plazomicin Compared With Meropenem Followed by Optional Oral Therapy for the Treatment of Complicated Urinary Tract Infection (cUTI) and Acute Pyelonephritis (AP) in Adults (EPIC)



Plazomicina

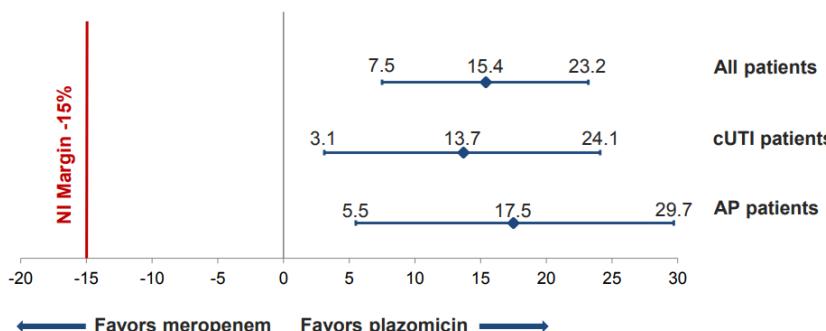
Eficacia en humanos

Primary Endpoints

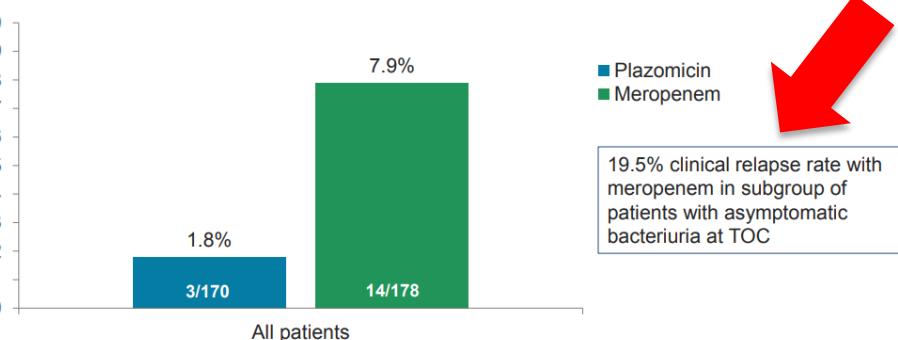


Microbiological Eradication at TOC by Infection Type (mMITT Population)

Point estimate for difference (plazomicin minus meropenem) with 95% CI



Clinical Relapse at LFU in Patients Who Were Clinical Cures at TOC (mMITT Population)



Plazomicina se muestra superior a Meropenem en su respuesta microbiológica

Tabla resumen

	Enterobact. BLEE	Enterobact. AmpC	Enterobacteriaceae prod. Carbapenemasas			<i>P. aeruginosa</i> MDR	<i>A. baumanii</i> CR
			KPC	OXA	MBL		
Imipenem/ relebactam	+	+	+	+/-	NO	+	NO
Aztreonam/ avibactam	+	+	+	+	+	NO	NO
Ceftarolina/ avivactam	+	+	+	+/-	NO	NO	NO
Meropenem/ vaborbactam	+		+	+/-	NO	NO	NO
Cefiderocol	+		+	+	+	+	+
Plazomicina	+	+	+	+	+	+	+

NO NDM

Eravaciclina

TH. Grossman, AAC, 2012 56;5, 2559–2564.

Tertraciclina similar a tigecilina (con dos modificaciones en el anillo (C-7 y C-9)).

Inhibición de la síntesis proteica por su unión al ribosoma

Actividad **no** afectada por

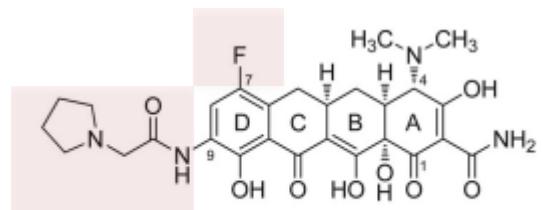
- Bombas de expulsión
- proteínas protectoras del ribosoma

Actividad **sí** afectada por

- tet(A), tet(X)
- mutación de 16S rRNA G1058C

Administración intravenosa y oral.

Buena actividad frente a *S.aureus* y anaeroicos



TP-434



Tigecycline

Ervaciclina

Actividad *in vitro*

Sutcliffe JA, AAC, 2013, 57(11), 5548-5558

Organism	MIC _{50/90} (µg/ml), MIC range (µg/ml), and no. of isolates					
	ERV	TET	TGC	CARB		
<i>Acinetobacter baumannii</i>	0.25/1 0.016–8 188	8/>>32 ≤0.25–>32 159	0.5/4 ≤0.016–8 188	2/32 0.13–>32 188		
			2/8 0.13–8 52	>8/>>32 >8–>32 52		
			2/4 0.25–8 69	>8/>>32 ≤0.25–>32 69		
			0.5/4 0.03–8 105	>8/>>32 2–>32 105		
			1/2 0.25–16 37	>8/>>32 2–>32 37		
			16/32 1–>32 145	2/>>8 0.13–>32 145		
Total	188	445	270	394	166	36

^a For each isolate within a given organism panel, the ratio of the tigecycline MIC to the ervacycline MIC (TGC/ERV MIC) was calculated.

Eravaciclina Experiencia en humanos

Solomkin J,

JAMA Surg. 2017 ;152(3):224-232

Phase III CT: Efficacy and Safety of Eravacycline vs Ertapenem in Complicated IAI (IGNITE-1)

Table 2. Primary Efficacy Analysis for US Food and Drug Administration (Clinical Response at TOC Visit)

Population	No. (%)		
	Eravacycline, 1.0 mg/kg every 12 h	Ertapenem, 1.0 g every 24 h	Difference (95% CI)
MITT			
No.	270	268	
Clinical cure	235 (87.0)	238 (88.8)	
Clinical failure	19 (7.0)	15 (5.6)	-1.80 (-7.4 to 3.8)
Indeterminate/missing	16 (5.9)	15 (5.6)	
Micro-ITT			
No.	220	226	
Clinical cure	191 (86.8)	198 (87.6)	
Clinical failure	19 (8.6)	11 (4.9)	-0.80 (-7.1 to 5.5)
Indeterminate/missing	10 (4.5)	17 (7.5)	
CE			
No.	239	238	
Clinical cure	222 (92.9)	225 (94.5)	
Clinical failure	17 (7.1)	13 (5.5)	-1.7 (-6.3 to 2.8)
Microbiologically evaluable			
No.	198	199	
Clinical cure	181 (91.4)	189 (95.0)	
Clinical failure	17 (8.6)	10 (5.0)	-3.6 (-8.9 to 1.5)

Eravaciclina Experiencia en humanos

A Phase 3, Randomized, Double-Blind, Double-Dummy, Multicenter, Prospective Study to Assess the Efficacy and Safety of Eravacycline Compared with Levofloxacin in Complicated Urinary Tract Infections (IGNITE-2)



908 pacientes:

Eravaciclina 1.5 mg/kg iv/d → 200 mg/12h vo

Levofloxacino 750 mg/iv/d → 750 mg/d vo

Eravacyclina no consiguió demostrar no inferioridad respecto levofloxacino en curación clínica y respuesta microbiológica

Eravacyclina

Experiencia en humanos

A Phase 3, Randomized, Double-Blind, Double-Dummy, Multicenter, Prospective Study to Assess the Efficacy and Safety of IV Eravacycline Compared with Ertapenem in Complicated Urinary Tract Infection (IGNITE-3)

A Phase 3, Randomized, Double-Blind, Double-Dummy, Multicenter, Prospective Study to Assess the Efficacy and Safety of Eravacycline Compared with Meropenem in Complicated Intra-abdominal Infections (IGNITE-4)

	Eravacycline n/N (%)	Meropenem n/N (%)	95% Confidence Interval (CI)
Microbiological intent-to-treat (micro-ITT) population; 12.5% non-inferiority margin (FDA)	177/195 (90.8%)	187/205 (91.2%)	-6.3, 5.3
Modified intent-to-treat (MITT); 12.5% non-inferiority margin (EMA)	231/250 (92.4%)	228/249 (91.6%)	-4.1, 5.8
Clinically evaluable (CE); 12.5% non-inferiority margin (EMA)	218/225 (96.9%)	222/231 (96.1%)	-2.9, 4.5

Tabla resumen

	Enterobact. BLEE	Enterobact. AmpC	Enterobacteriaceae prod. Carbapenemasas			<i>P. aeruginosa</i> MDR	<i>A. baumanii</i> CR
			KPC	OXA	MBL		
Imipenem/ relebactam	+	+	+	+/-	NO	+	NO
Aztreonam/ avibactam	+	+	+	+	+	NO	NO
Ceftarolina/ avivactam	+	+	+	+/-	NO	NO	NO
Meropenem/ vaborbactam	+		+	+/-	NO	NO	NO
Cefiderocol	+		+	+	+	+	+
Plazomicina	+	+	+	+	+ NO NDM	+	+
Ervacyclina	+		+	+	+	NO	+

Perspectivas de futuro (DAFO)



Arsenal terapéutico para hacer frente a la amenaza actual



Fortalezas

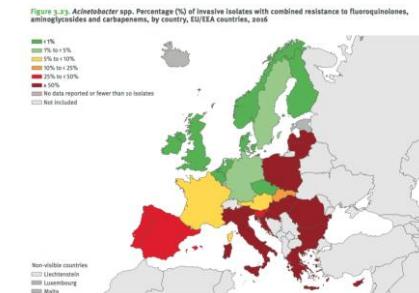
Oportunidades

Debilidades

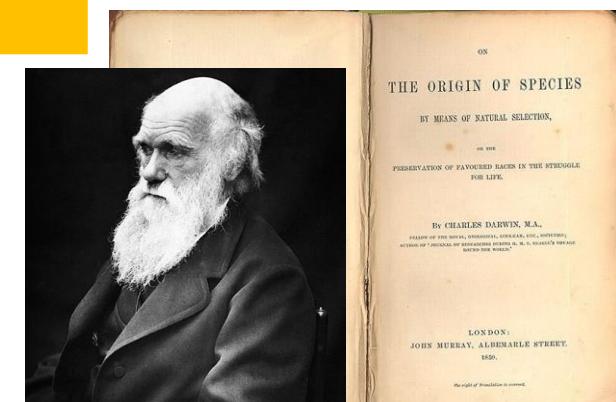
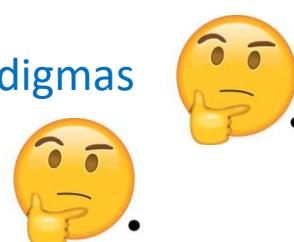
Amenazas

Pocas opciones para NDM, *P aeruginosa* y *A. baumanii*

Pocas opciones orales



Dianas alternativas a las clásicas, nuevos paradigmas
Antibióticos potentes con espectro reducido



Muchas gracias

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