



Papel de los nuevos antibióticos en el tratamiento de las infecciones postquirúrgicas por cocos Gram positivos multirresistentes

15:55-16:15

Patricia Muñoz

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Departamento de Medicina. Universidad Complutense de Madrid. Spain
Instituto de Investigación Gregorio Marañón
Centro de investigación biomédica en red en Enfermedades Respiratorias (CIBERES)

Elementos a considerar

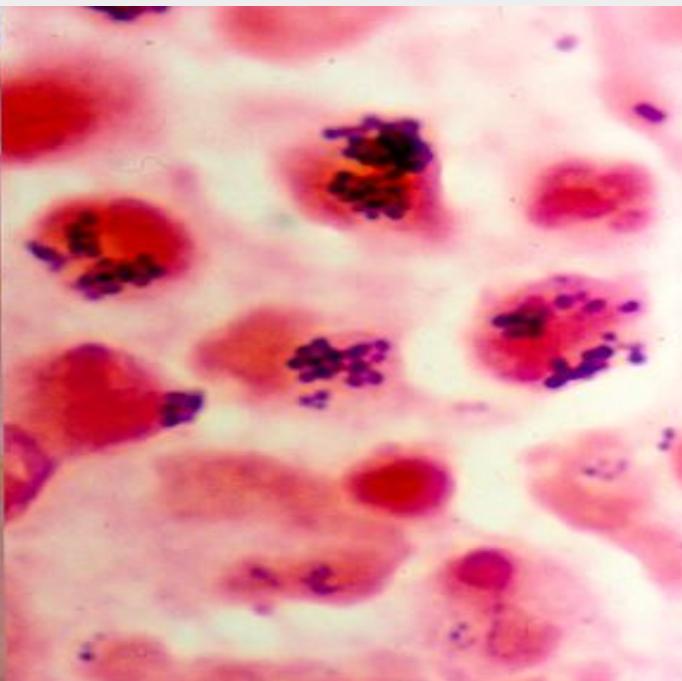
1. Paciente, microorganismo y tipo de infección
2. Fármaco
 - a) Actividad in vitro
 - b) Actividad in vivo
 - c) Seguridad y Precio



Lo voy a hablar de: Vancomicina, Daptomicina, Linezolid

Asumo: Infección postquirúrgica grave

- Papel esencial de la cirugía/Bacteriemia concomitante
- Tratamiento inicial IV en el hospital. Potencial necesidad de prolongarlo, incluso tras el alta



FDA Approves Tedizolid for Skin Infections

nn L. Estes, PharmD

Tedizolid, an oxazolidinone, is the second new drug approved in the last month for treatment of skin and soft tissue infections.

NEWS & EVENTS / NEWSROOM / PRESS ANNOUNCEMENTS

ws Release

FDA approves Orbactiv to treat skin infections

New antibacterial drug approved for this use this year

DRUG/DEVICE INFORMATION

2014

FDA Approves Dalbavancin for Skin Infections

Estes, PharmD

New long-acting intravenous lipoglycopeptide can be used in a two-dose treatment course, spaced by 1 week.

Opciones

Ceftarolina
Ceftobiprol
Telavancina

How To

PubMed mediastinitis AND ceftaroline

Create alert Advanced

Search results

Items: 0

i No documents match your search terms

resources How To

PubMed mediastinitis AND ceftobiprole

Create RSS Create alert Advanced

act ▾

iol Infect Dis. 2014 Mar;33(3):325-9. doi: 10.1007/s10096-013-1959-9. Epub 2013 Sep 14.

ceftobiprole medocaril is an effective treatment against methicillin-resistant *Staphylococcus aureus* (MRSA) mediastinitis in a rat model.

von-Venezia S, Kuzmenko B, Artzi N, Carmeli Y.

NCBI Resources How To

PubMed.gov US National Library of Medicine National Institutes of Health

PubMed mediastinitis AND dalbavancin

Create RSS Create alert Advanced

Format: Abstract ▾

i Showing results for **mediastinitis AND dalbavancin**. Your search for **mediastinitis AND dalbavancina** retrieved 0 results.

J Antimicrob Chemother. 2016 Feb;71(2):460-3. doi: 10.1093/jac/dkv357. Epub 2015 Oct 30.

Efficacy of dalbavancin in the treatment of MRSA rat sternal osteomyelitis with mediastinitis.

Barnea Y¹, Lerner A², Aizic A³, Navon-Venezia S⁴, Rachi E², Dunne MW⁵, Puttagunta S⁵, Carmeli Y⁶.

Author information

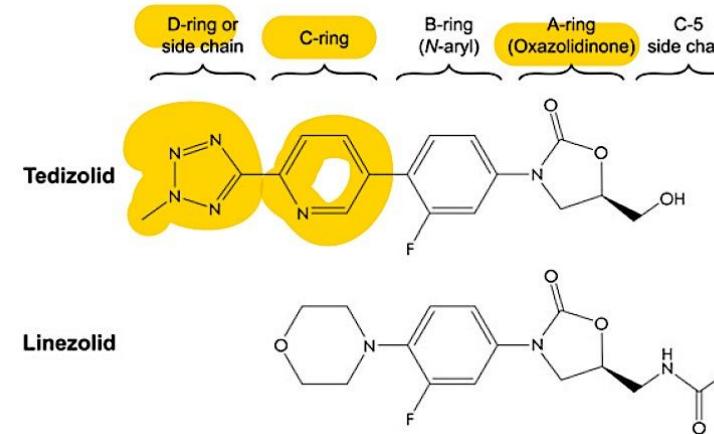
Caso clínico

- Varón de 83 años, síndrome mielodisplásico, polimialgia reumática, SCA
- Bypass X3. Reintervención por sangrado y cierre diferido.
- Dia +18: MDT bacteriémica por *S. epidermidis* meti-R y *Morganella morganii*.
- Cirugía y ABS (PT +
 - Linezolid: d+6 trombopenia (18mil)
 - Vancomicina ajustada a fx renal: d+2 empeoramiento de la fx renal
 - Daptomicina (350 mg c/ 48h): d+7 rabdomiólisis (CK 2491)
 - Tedizolid 200 mg c/ 24 h durante 4 sem.
 - No trombopenia, recuperación de la fx renal. CPK se normalizó.
 - Buena evolución clínica. No recidiva.



¿Que es tedizolid?

- OXADOZILIDINONA (linezolid)
- Modificación cadena q da > unión a dianas
- Anti-grampositivo, incluido SARM y R a linezolid
- Aprobado: Infecciones de piel y p. Blandas
- Ensayos en: osteomielitis, herida, fibrosis quística, niños, obesos, neumonía, PPD complicadas
- Mejor tolerancia q linezolid



SIVEXTR

Streptococcus spp.

EUCAST Clinical Breakpoint Tables v. 6.0, valid from

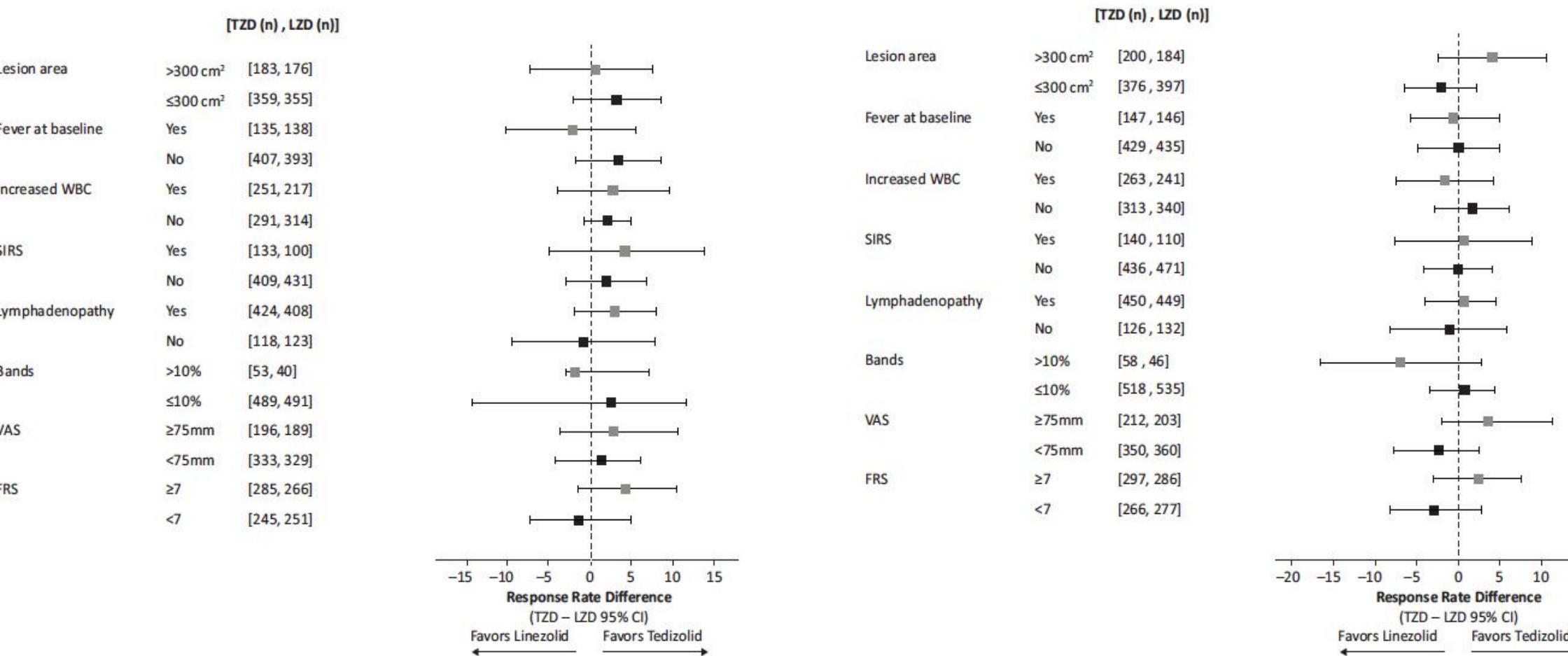
Inhalation nones	MIC breakpoint (mg/L)		Disk content (µg)	Zone diameter breakpoint (mm)		Notes Numbered notes relate to general comments and/or MIC breakpoints. Lettered notes relate to the disk diffusion method.
	S ≤	R >		S ≥	R <	
	4	4		19 ^A	19 ^A	
	0.5 ^B	0.5 ^B		Note ^B	Note ^B	1. Isolates susceptible to linezolid can be reported susceptible to tedizolid. A. Examine zone edges with transmitted light (plate held up to light). B. Isolates susceptible to linezolid can be reported susceptible to tedizolid. For isolates resistant to linezolid, perform

Tedizolid: Pharmacology

Variable	Linear pharmacokinetics
Route	Oral and IV (AUC igual con/sin comida). > 90% oral bioavailability
Formulations	200 mg tabs and single use vials
T max (single-dose)	2.5 h (oral), 1.1 h (IV)
Distribution	70-90% protein bound
Metabolism	The prodrug tedizolid phosphate is rapidly converted to tedizolid by endogenous phosphatases; it is not a substrate, inhibitor, or inducer of CYP450 enzymes . Metabolized via the liver
Excretion	82% (feces), 18% (urine) as inactive metabolite
Half-life (terminal)	12 h
Dosage	200mg/day (oral OR IV)
Renal or hepatic adjustment. Advanced age.	NOT NEEDED

clinical Response of Tedizolid versus Linezolid in Acute Bacterial Skin and Skin Structure Infections by Severity Measure Using a Pooled Analysis From Two Phase 3 Double-Blind Trials

Shorter 6-day treatment of ABSSSI, including severe infections, with tedizolid phosphate comparable efficacy to 10-day with linezolid



Tedizolid vs Linezolid. MENOS trombopenia

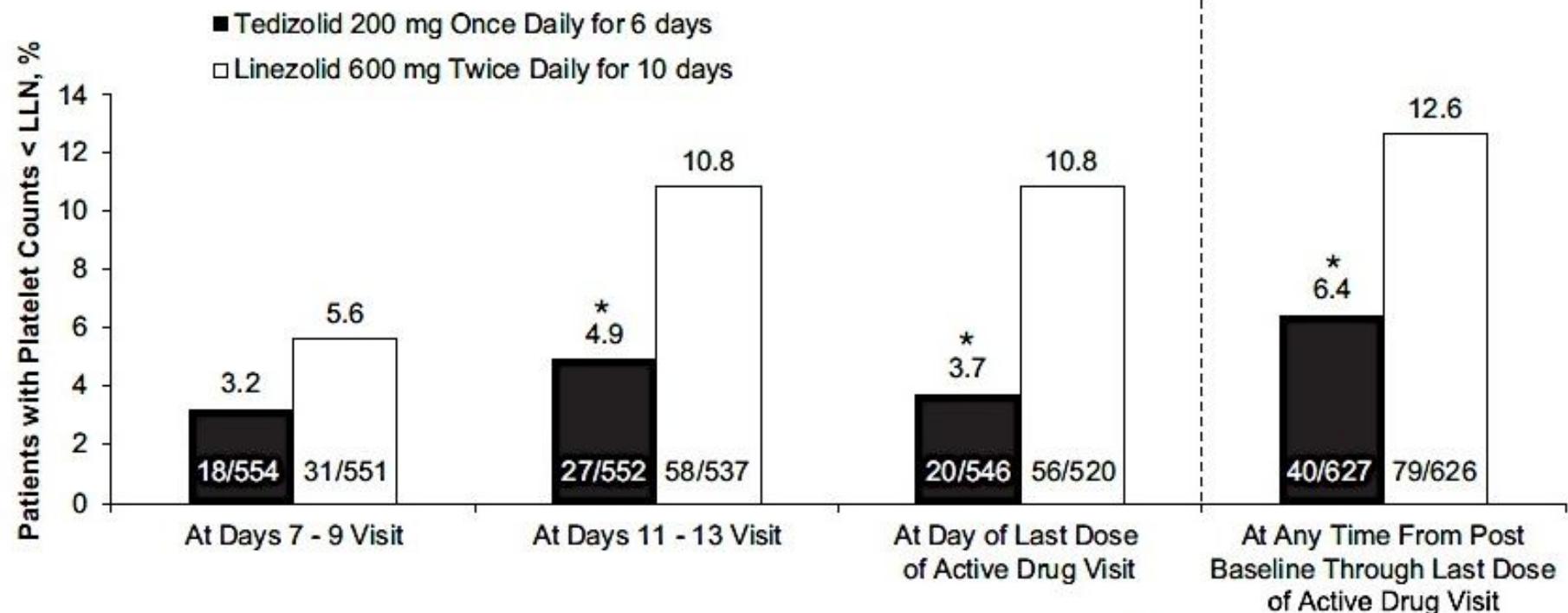


FIG 3 Patients with platelet counts below the lower limit of normal (LLN) ($<150,000$ cells/mm 3) over time. *, $P < 0.05$. EOT, end-of-the-

Caso clínico

- Varón de 56 años. Carcinoma escamoso de lengua y suelo de la boca nov 2016. DM2, DL, Estenosis aórtica severa, y estenosis mitral ligera. SVM y SVA.
- **Mediastinitis bacteriémica por SAMR** (CMI Vanco 1): tratada con **Daptomicina** + GM + RF
- A pesar de la daptomicina: **endocarditis precoz sobre válvula protésica mitral**
 - **No operable**
 - **Ceftarolina** 600 mg / 8 h y Rifampicina 900 mg /24h 4 MESES (25.05->8.09)
 - Respuesta microbiológica y clínica
 - PET-TAC de control negativo, aunque continua con IM severa y dehiscencia de la prótesis
 - Se ha desestimado intervención quirúrgica o intervención percutánea. No candidato a Tx cardíaco según valoración por cardiología

CEFTAROLINA fosamil



- ❖ Cefalosporina parenteral de 5^a generación
- ❖ Mayor actividad frente a Gram positivos MDR, incluyendo MRSA + GISA
- ❖ Actividad frente a Gram neg. como Ceftriaxona
- ❖ Aprobada para SSTI's y NAC. Reclutando osteo, neumonía UCI, penetración SNC
- ❖ Ajuste en Insuf. renal (eliminac. 88%)
- ❖ **DOSIS NORMAL 600 mg/12h. INF GRAVE SAMR: 600 mg/8 hIV durante 2 h**

Integrated Analysis of FOCUS 1 and FOCUS 2:
Randomized, Doubled-Blinded, Multicenter
Phase 3 Trials of the Efficacy and Safety
of Ceftaroline Fosamil versus Ceftriaxone
in Patients with Community-Acquired Pneumonia

Thomas M. File, Jr.^{1,2} Donald E. Low,^{5,6} Paul B. Eckburg,³ George H. Talbot,⁴ H. David Friedland,³ Jon Lee,³
Lily Llorens,³ Ian Critchley,³ and Dirk Thye³

¹Northeastern Ohio Universities Colleges of Medicine and Pharmacy, Rootstown, Ohio; ²Clinical Infectious Diseases, New York, New York; ³Clinical Infectious Diseases, Wayne, Pennsylvania; and ⁴Mount Sinai Hospital, New York, New York; ⁵UCLA Medical Center, Los Angeles, California; ⁶Talbot Advisors, Wayne, Pennsylvania

Clin Infect Dis 2010;51(12):1395-1405

NAC

Integrated Analysis of CANVAS 1 and 2: Phase 3,
Multicenter, Randomized, Double-Blind Studies
to Evaluate the Safety and Efficacy of Ceftaroline
versus Vancomycin plus Aztreonam in Complicated
Skin and Skin-Structure Infection

G. Ralph Corey,¹ Mark Wilcox,⁴ George H. Talbot,^{2*} H. David Friedland,² Tanya Baculik,² Gary W. Witherell,²
Ian Critchley,² Anita F. Das,² and Dirk Thye²

¹Duke Clinical Research Institute, Durham, North Carolina; ²Cerexa, Inc., ³Oakland, and ⁴AviStat Inc, San Francisco, California; ⁵Leeds Teaching Hospitals and University of Leeds, Leeds, United Kingdom

Clin Infect Dis 2010;51:641

Infección piel y partes blandas

Bacteriemia por Gram positivos

Medical Use of Ceftaroline Fosamil for the Treatment of Gram-Positive Bacteremia CAPTURE Study Experience

Christy Maggiore, PharmD, BCPS^{1*}, Leonard B. Johnson, MD², Keith Kaye, MD, MPH³, Chad M. Cannon, MD⁴, Jose Vazquez, MD, FACP, FIDSA⁵

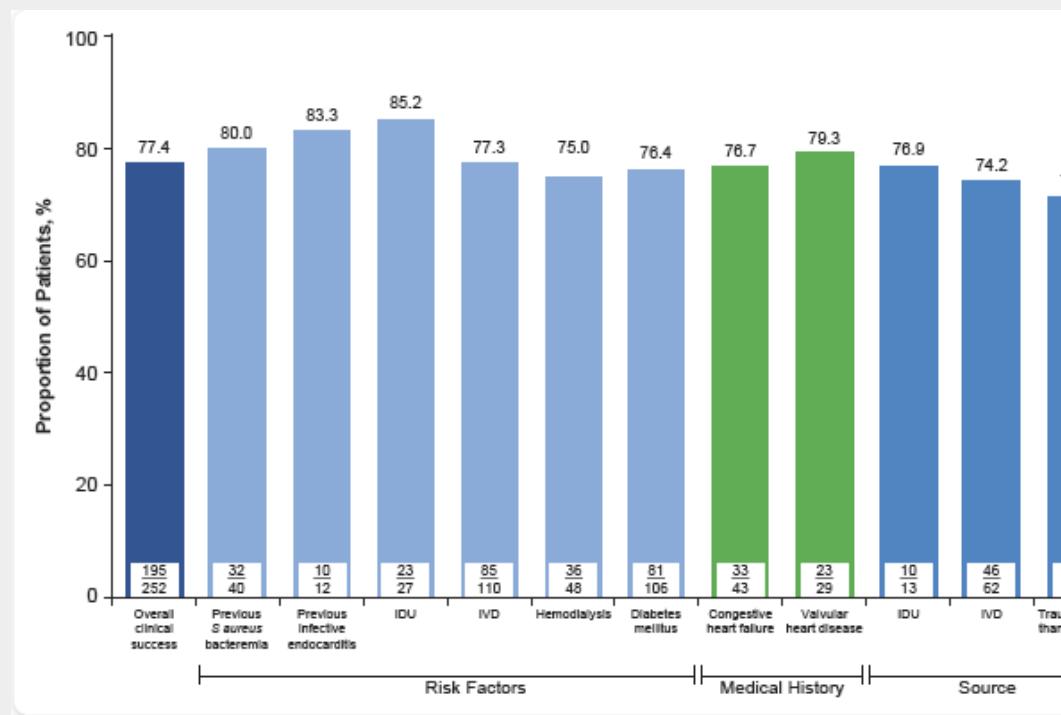
¹Past Medical Center, Panama City, FL; ²St. John Hospital and Medical Center, Detroit, MI; ³Detroit Medical Center and Wayne State University, Detroit, MI; ⁴University of Kansas Medical Center, Kansas City, KS; ⁵Medical College of Georgia, Georgia Regents University, Augusta, GA

*Presenting author

Estudio retrospectivo, 37 centros.
Colección de casos. 252 enfermos
77,4% Éxito.

Table 3. Pathogens Isolated*

Pathogen, n (%)	CAPTURE (N=85)
MRSA	36 (42.4)
Vancomycin MIC >1 mg/L†	9 (23.7)
MSSA	5 (5.9)
<i>Escherichia coli</i>	4 (4.7)
<i>Haemophilus influenzae</i>	2 (2.4)
<i>Klebsiella oxytoca</i>	2 (2.4)
<i>Pseudomonas aeruginosa</i>	2 (2.4)



Ceftaroline as Salvage Monotherapy for Persistent MRSA Bacteremia: A Review of Current Literature

Metaanálisis. Bacte por MRSA. Rescate

600 mg tid en estos estudios

170 episodios (52 endocarditis)

Duración tto 9-60 días

Poco seguimiento

Buena evol inmediata 132 (78%)

Seguridad de Ceftarolina en ensayos clínicos

EFECTO ADVERSO	Ceftarolina (1305)	Comparadores (1301)
Pacientes con al menos 1 EA	45.7	46.7
Diarrea	4.6%	3.2%
Nauseas	4.2%	3.8%
Vómitos	2%	2%
Exantema	3%	2%
Prurito	1.9%	3.5%
Cefalea	4.4%	3.1%
Elevación de transaminasas	2%	3%
Flebitis	2%	1%

Comparadores: Vancomicina 1 gr/12h IV + Aztreonam 1 gr/12h IV en CANVAS
Ceftriaxona 1 gr/24h IV en FOCUS 1-2 y ASIA CAP

Incidencia de neutropenia 10%–14% a las ≥ 2 semanas y 21% a las ≥ 3 semanas
de exposición a ceftarolina: MONITORIZAR

Hemograma semanal

Frente a los comparadores

VENTAJAS

- No toxicidad renal. Uso en IR
- Eficacia de betalactámico:
 - Mayor eficacia que vanco, dapto?
 - VISA, hVISA, R a dapto
- Sinergia con daptomicina, vanco
- Eficacia en neumonía
- No interacciones (no p450)
- Buena penetración en LCR
- Ahorro de carbapenems

CONTRAS: A VIGILAR

- Toxicidad hematológica:
Neutropenia/agranulocitosis
- Neumonía eosinófila
- Coste?



Ceftobiprole: an extended-spectrum anti-methicillin-resistant *Staphylococcus aureus* cephalosporin



- 5th Generation Cephalosporin. Active against MRSA + *E. faecalis*, *H. influenzae*, *Enterobacteriaceae*, *Pseudomonas aeruginosa*
- Iv 500 mg tid in adults with Normal Renal Function.
- Approved for SSTIs and pneumonia (excluding VAP)

SSTIs

Randomized, Double-Blind Trial Comparing ceftobiprole Medocaril with Vancomycin plus ceftazidime for the Treatment of Patients with Complicated Skin and Skin-Structure Infections

Noel GJ. CID. 2008; 46: 647-655.

Results of a Double-Blind, Randomized Trial of Ceftobiprole Tr of Complicated Skin and Skin Structure Infections Caused Gram-Positive Bacteria[▽]

Noel GJ. Antimicrob Agents Chemother. 2008; 52: 3

Non inferior to Vanco+Ceftazidime in SSTIs

Ceftobiprole: Pneumonia

A Phase 3 Randomized Double-Blind Comparison of Ceftobiprole Medocaril Versus Ceftazidime Plus Linezolid for the Treatment of Hospital-Acquired Pneumonia

Awad. SS. CID. 2014; 59:51–61.

A randomised, double-blind trial comparing ceftobiprole medocaril with ceftriaxone with or without linezolid for the treatment of patients with community-acquired pneumonia requiring hospitalisation

Nicholson SC. International Journal of Antimicrobial Agents 39 (2012) 240– 246.

Non Inferiority NOT reached in VAP patients

Telavancin: A Novel Lipoglycopeptide



- New lipoglycopeptide Derived from Vanco.
- Acts against both cell membranes and cell wall
- IV 7,5-10 mg/kg/qd
- Nefrotoxicity >Vanco. Prolongs QT

SSTIs

Telavancin Versus Standard Therapy for Treatment of Complicated Skin and Soft-Tissue Infections Due to Gram-Positive Bacteria

Telavancin versus Standard Therapy for Treatment of Complicated Skin and Skin Structure Infections Caused by Gram-Positive Bacteria: FAST 2 Study

Telavancin versus a B-lactam or Vanco in SSTIs. Non inferiority. Better erradication.
Fast 1 and 2 Studies

Telavancin: Pneumonia. ATTAIN studies

Telavancin versus Vancomycin for Hospital-Acquired Pneumonia due to Gram-positive Pathogens

Rubinstein E. C.I.D. 2011;52:31-40

Telavancin vs Vanco in NN. **Greater Mortality** with Telavancin and more **ophrotoxicity** (10% vs 6%)

pts with Renal Insufficiency from the beginning, results were equivalent.

Telavancin Hospital-Acquired Pneumonia Trials:
Impact of Gram-Negative Infections and
Inadequate Gram-Negative Coverage on Clinical
Efficacy and All-Cause Mortality

Purportedly Gram negatives
were not adequately covered
in Telavancin side?

Lacy MK. C.I.D. 2015; 61:S87-93

Oritavancin: SOLO1 and SOLO2 studies

- New lipoglycopeptide approved as alternative in SSTIs in adults
- Active against Gram positives, including VRSA
- 1200mg iv in single dose to infuse in 3 h. Little metabolism
- Very long half life (t_{1/2} approx. 40-277 h). Accumulates in tissues and MFC

No inferiority in SSTIs, 1200 mg Orita vs Vanco bid

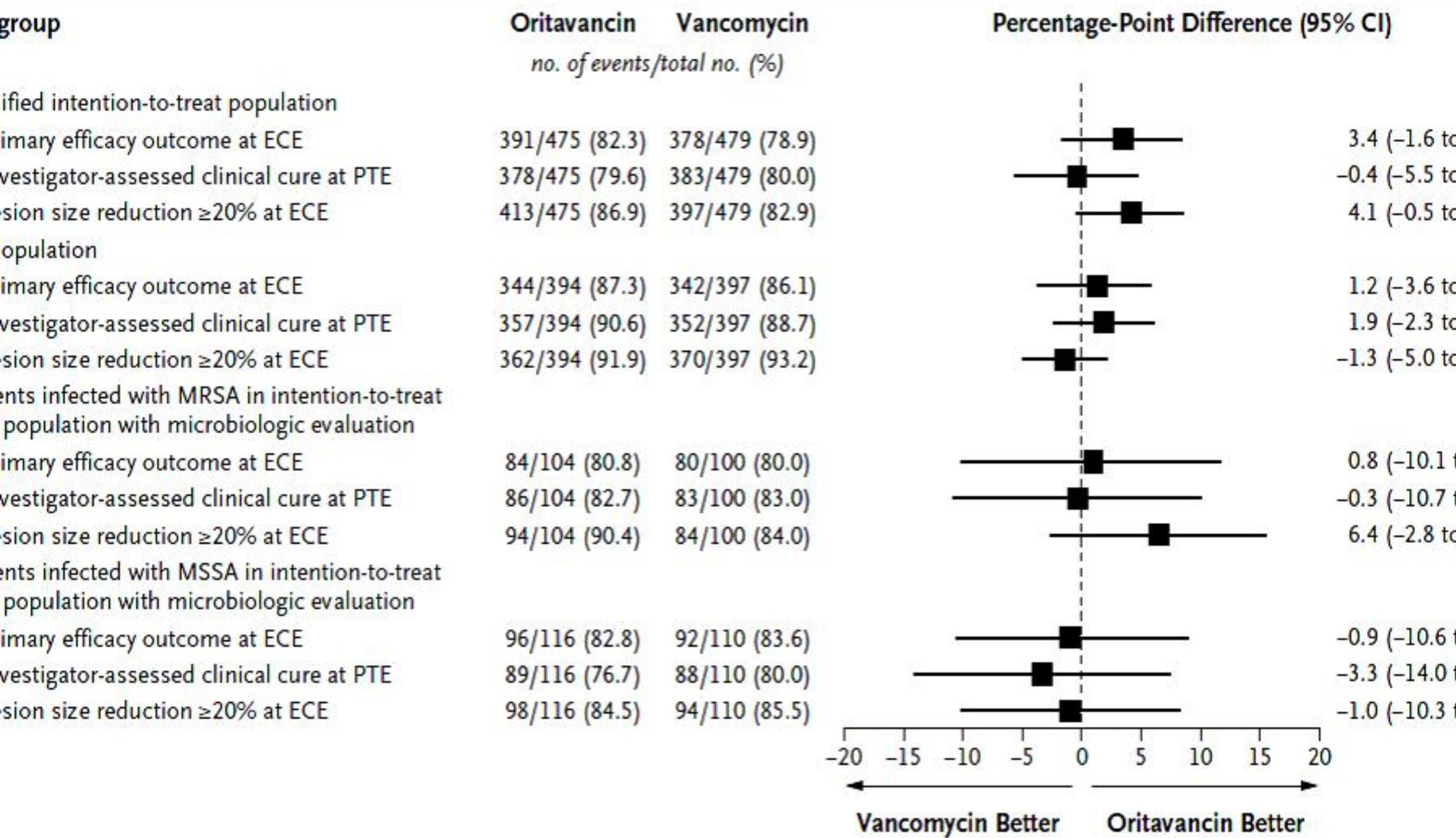
ORIGINAL ARTICLE

Single-Dose Oritavancin Versus 7–10 Days
Vancomycin in the Treatment of Gram-Pos-
Acute Bacterial Skin and Skin Structure
Infections: The SOLO II Noninferiority Stu

Single-Dose Oritavancin in the Treatment
of Acute Bacterial Skin Infections

Corey GR. N Engl J Med 2014;370:2180-90.

Corey GR. C.I.D. 2015; 2015;60(2):254-



Dalvabancina ¿Qué es?

oogluycopéptido semisintético
tivo frente a Gram positivos
(excepto VanA)

probado en 2014 por la FDA

S. aureus (SARM, GISA)
S. epidermidis

S. pyogenes
S. agalactiae
S. pneumoniae (SPRP)
S. grupo-viridans

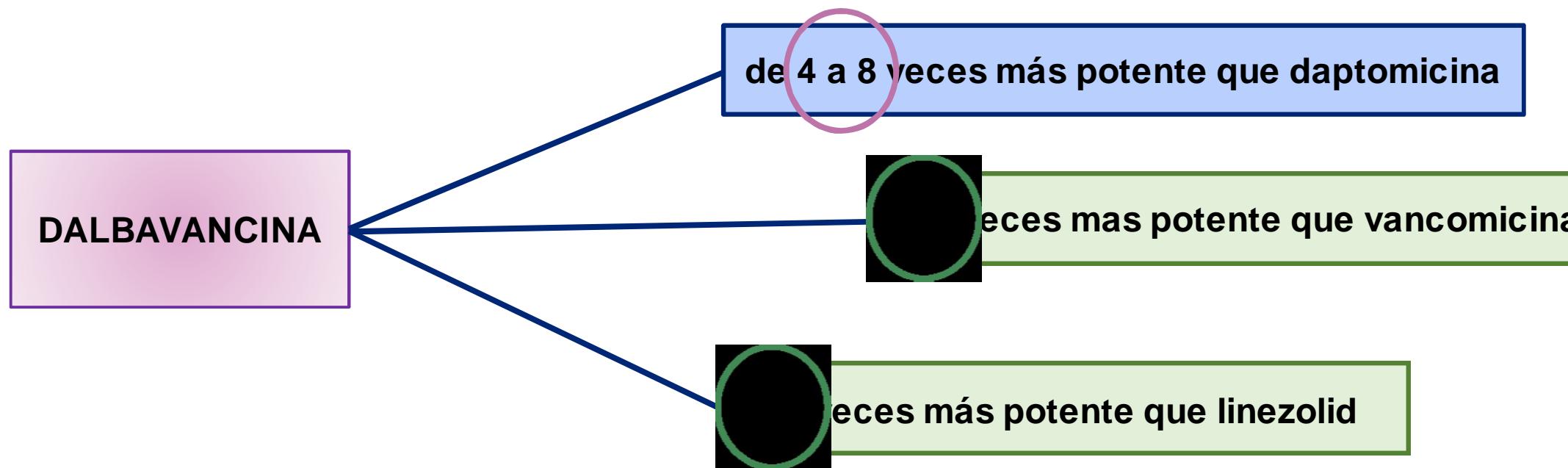
E. faecalis
E. faecium

Listeria monocytogenes
Corynebacterium spp
Bacillus anthracis
Cocos y *Bacilos* Gram positivos anaerobios

In vitro activity of dalbavancin against multidrug-resistant *Staphylococcus aureus* and streptococci from patients with documented infections in Europe and surrounding regions (2011–2013)

International Journal of Antimicrobial Agents 47 (2016) 495–499

Michael D. Huband *, Mariana Castanheira, David J. Farrell, Robert K. Flamm, Ronald N. Jones, Helio S. Sader, Rodrigo E. Mendes



Cepas de CMI a vancomicina de 2 los rangos de CMI están entre 0,12 y 0,25, pero aún así dalbavancina fue más activa que los comparadores.

Dalbavancina

Administración:

- ▶ Vía intravenosa (infusión de 30 minutos)

Posología:

- ▶ Dosis única: 1500 mg
- ▶ Dos dosis: 1000 mg inicialmente y a la semana 500mgmg)
- ▶ Ajuste si CrCl< 30 mL/min ajuste de dosis (750-375)
- ▶ Farmacocinética lineal y escasa variabilidad

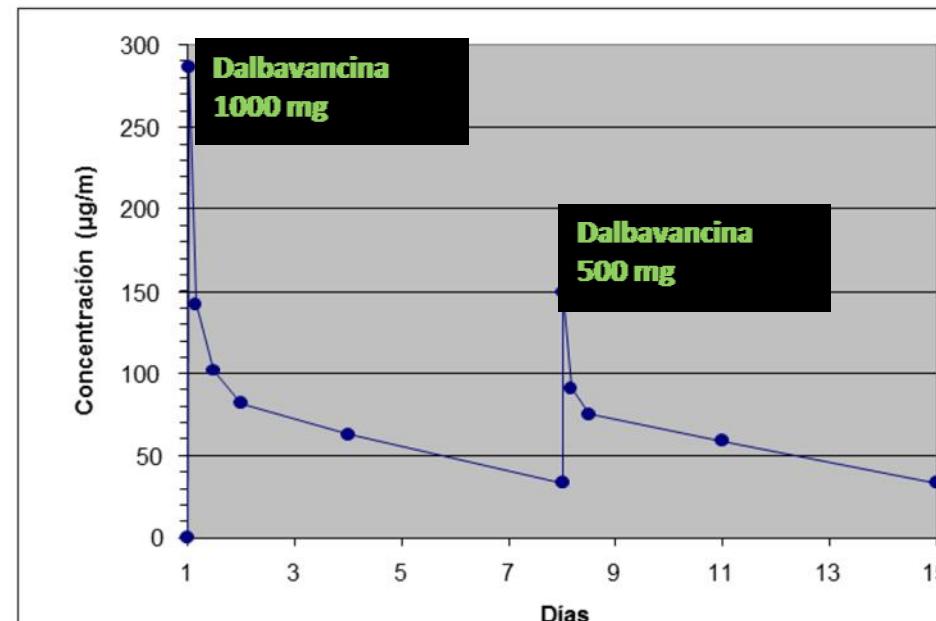
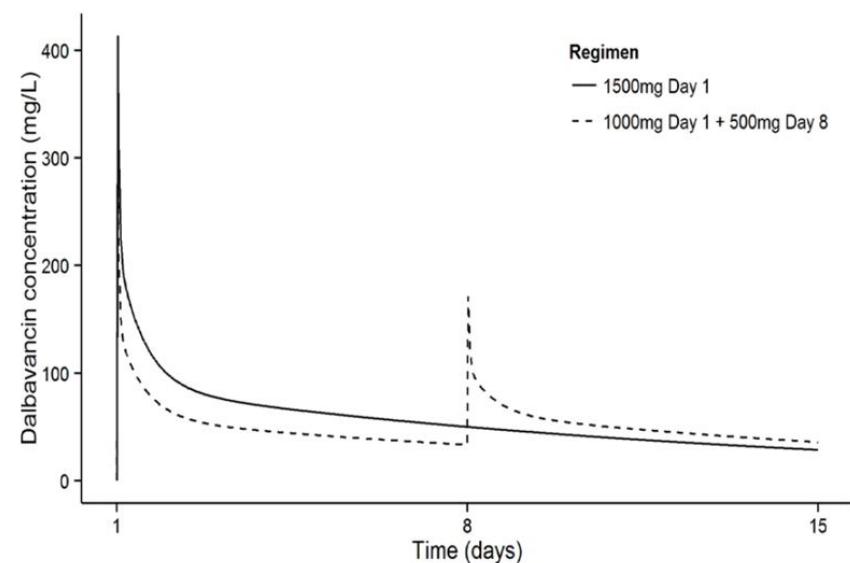


Figura 1. Concentraciones de dalbavancina en plasma en función del tiempo en un paciente típico con infecciones bacterianas agudas de la piel y de los tejidos blandos (simulación utilizando un modelo farmacocinético poblacional) para los regímenes de una y de dos dosis



Dalbavancina - SSTI

Once-Weekly Dalbavancin versus Standard-of-Care Antimicrobial Regimens for Treatment of Skin and Soft-Tissue Infections

Elyse Seltzer, Mary Beth Dorr, Beth P. Goldstein, Marc Perry, James A. Dowell, Tim Henkel, and the Dalbavancin Skin and Soft-Tissue Infection Study Group*

Viceron Pharmaceuticals, King of Prussia, Pennsylvania



Once-Weekly Dalbavancin versus Daily Conventional Therapy for Skin Infection

Helen W. Boucher, M.D., Mark Wilcox, M.D., George H. Talbot, M.D., Sailaja Puttagunta, M.D.,
Anita F. Das, Ph.D., and Michael W. Dunne, M.D.

Clinical Infectious Diseases

MAJOR ARTICLE



A Randomized Clinical Trial of Single-Dose Versus Weekly Dalbavancin for Treatment of Acute Bacterial Skin and Skin Structure Infection

Michael W. Dunne,¹ Sailaja Puttagunta,¹ Philip Giordano,² Dainis Krievins,³ Michael Zelasky,¹ and James Baldassarre⁴

¹Allergan plc, Branford, Connecticut; ²Orlando Health, Florida; ³Stradins University Hospital, Riga, Latvia; and ⁴Janssen Pharmaceuticals, Springhouse, Pennsylvania



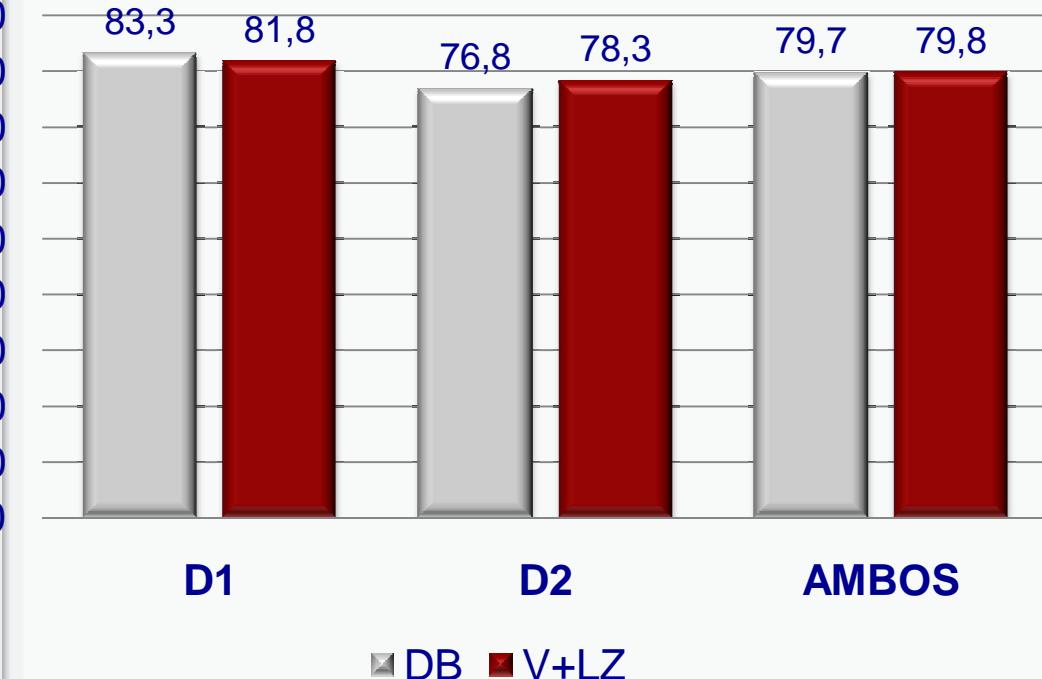
MAJOR ARTICLE

Randomized, Double-Blind Comparison
of Once-Weekly Dalbavancin versus Twice-Daily
Linezolid Therapy for the Treatment of Complicated
Skin and Skin Structure Infections

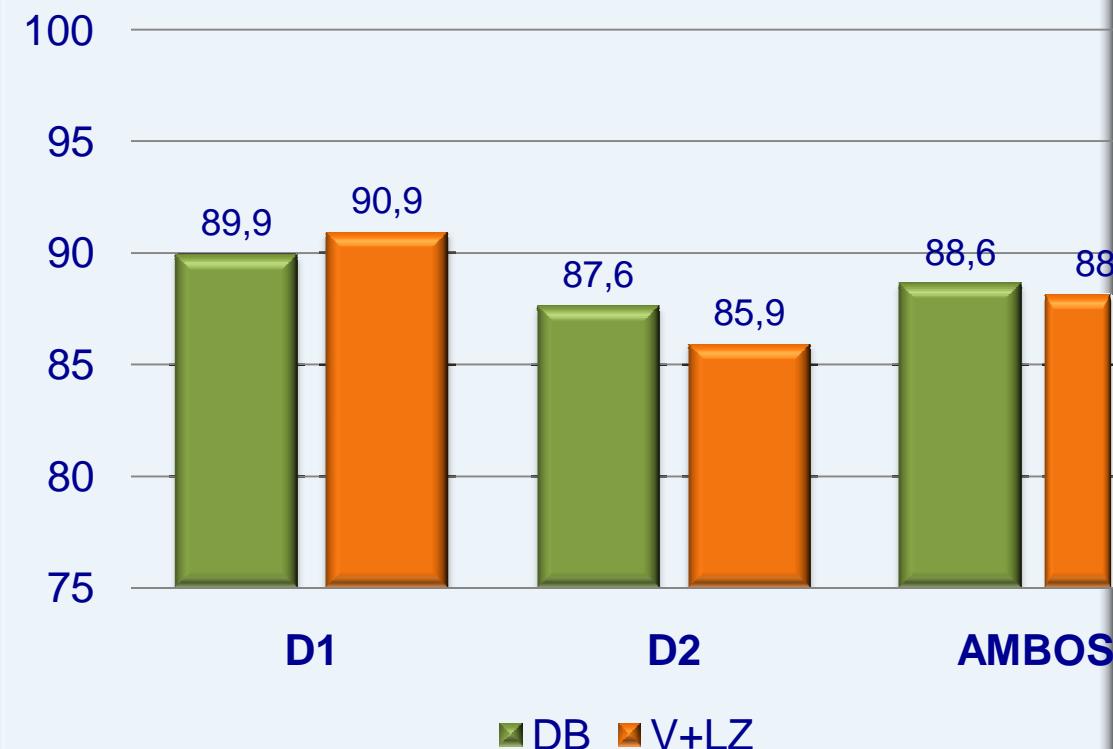
Luis E. Jauregui,¹ Simon Babazadeh,² Elyse Seltzer,⁵ Lisa Goldberg,⁶ Dainis Krievins,⁷ Mark Frederick,³
David Krause,⁶ Igors Satilovs,⁸ Zilvinas Endzinas,⁹ Jeffrey Breaux,⁶ and William O'Riordan⁴

Eficacia infección PPB

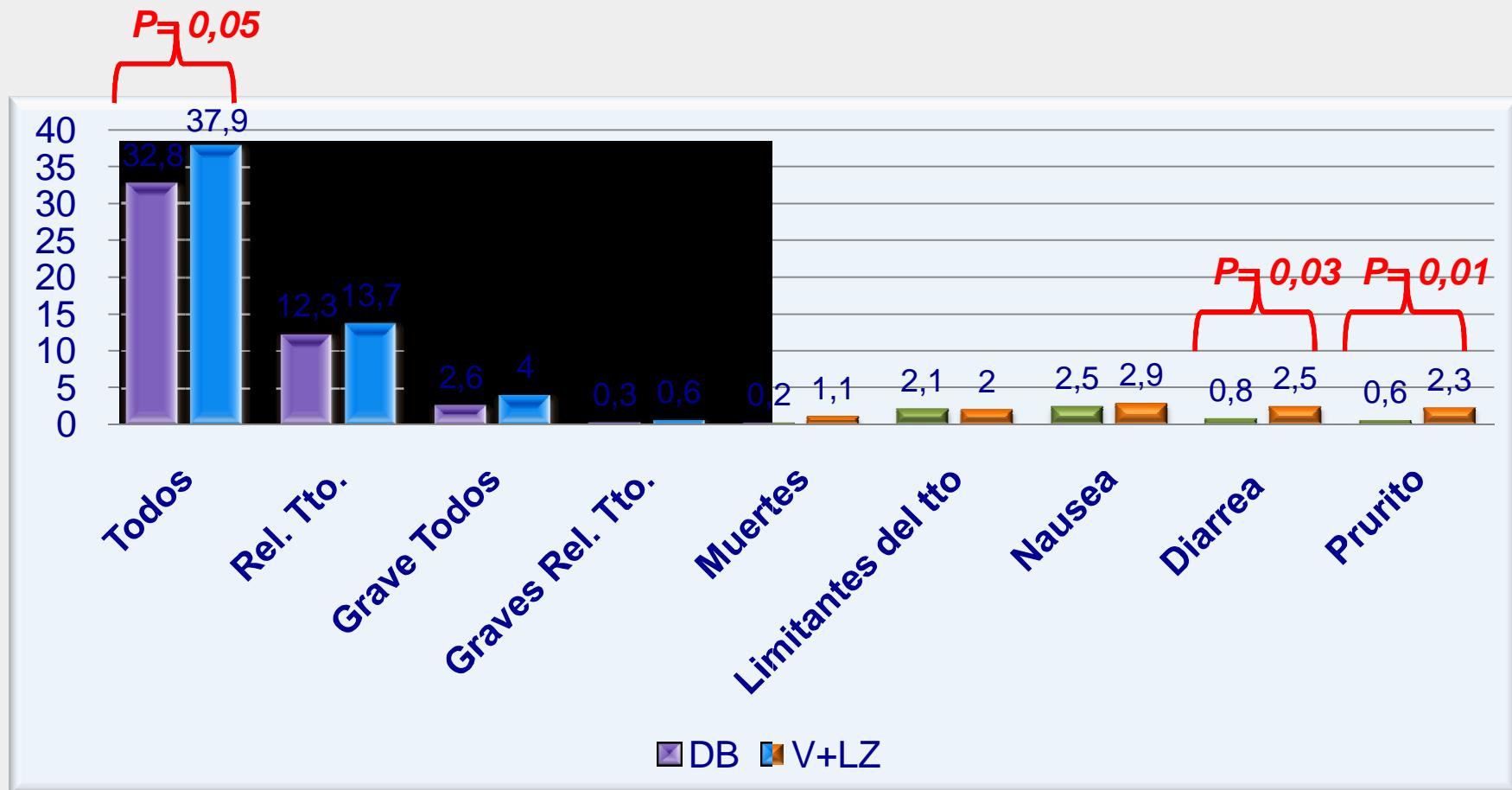
Objetivo 1º



Análisis de Sensibilidad



Efectos Adversos





Hospital General Universitario

Gregorio Marañón

Comunidad de Madrid



Instituto de Investigación Sanitaria Gregorio Marañón

DALBavancina: estudio de su USo clínico en España (Estudio DALBUSE)

E. Bouza, M. Valerio, A. Soriano, L. Morata, E. García Carus, C. Rodríguez-González, M^a
Carmen Hidalgo-Tenorio, A. Plata, P. Muñoz, A. Vena.

On behalf of the DALBUSE study group : Ascensión Arroyo, Arturo Artero, José María
Barbero, Enrique Bernal; Francisco Javier Candel, Laura Castelo, Javier Cobo; M^a Carmen
Gálvez, Pablo Guisado, Rafael Hervás, Juan Pablo Horcajada, Dra. Simona Mihaela
Iftimie, Enrique Jiménez, Francisco Jover, José Luis Lamas, Juan Emilio Losa, Ana B.
Lozano, Eduardo Malmierca, Mar Masiá; Rosa Oltra, Alicia Rico, M^a Dolors Rodríguez, Sergio
Julio Rodríguez, Dr. Rafael San Juan, Dra. Cristina Sarriá, María Antonia Sepúlveda, Beatriz
Sobrino.

Centros participantes

Sesenta y nueve pacientes

29 hospitales de España

Media de 2,4 casos por centro
[rango 1-11].



Características demográficas

CARACTERISTICAS	N=69 (%)
Edad, mediana, años (RIQ)	63,5 (49,3-72,0)
Varón	40 (58)
Servicio de ingreso	
Medicina	36 (52,2)
Cirugía	29 (42,0)
Hospitalización domicilio	4 (5,8)
Enfermedad de base	
Diabetes mellitus	23 (33,3)
Cardiovascular	22 (31,9)
Respiratoria	15 (21,7)
Enf. renal crónica	15 (21,7)
Enf. neurológica	14 (20,3)
Neoplasia sólida	8 (11,6)
Enf. gastrointestinal	7 (10,1)
Hepatopatía crónica	6 (8,7)
Hemodiálisis	4 (5,8)
Índice de Charlson (mediana, RIQ)	3 (1-5)
Escala de McCabe	
No fatal	51 (73,9)
Últimamente fatal	14 (20,3)
Rápidamente fatal	3 (4,3)

34 pacientes (49,2%) tuvieron mas de una enfermedad de base

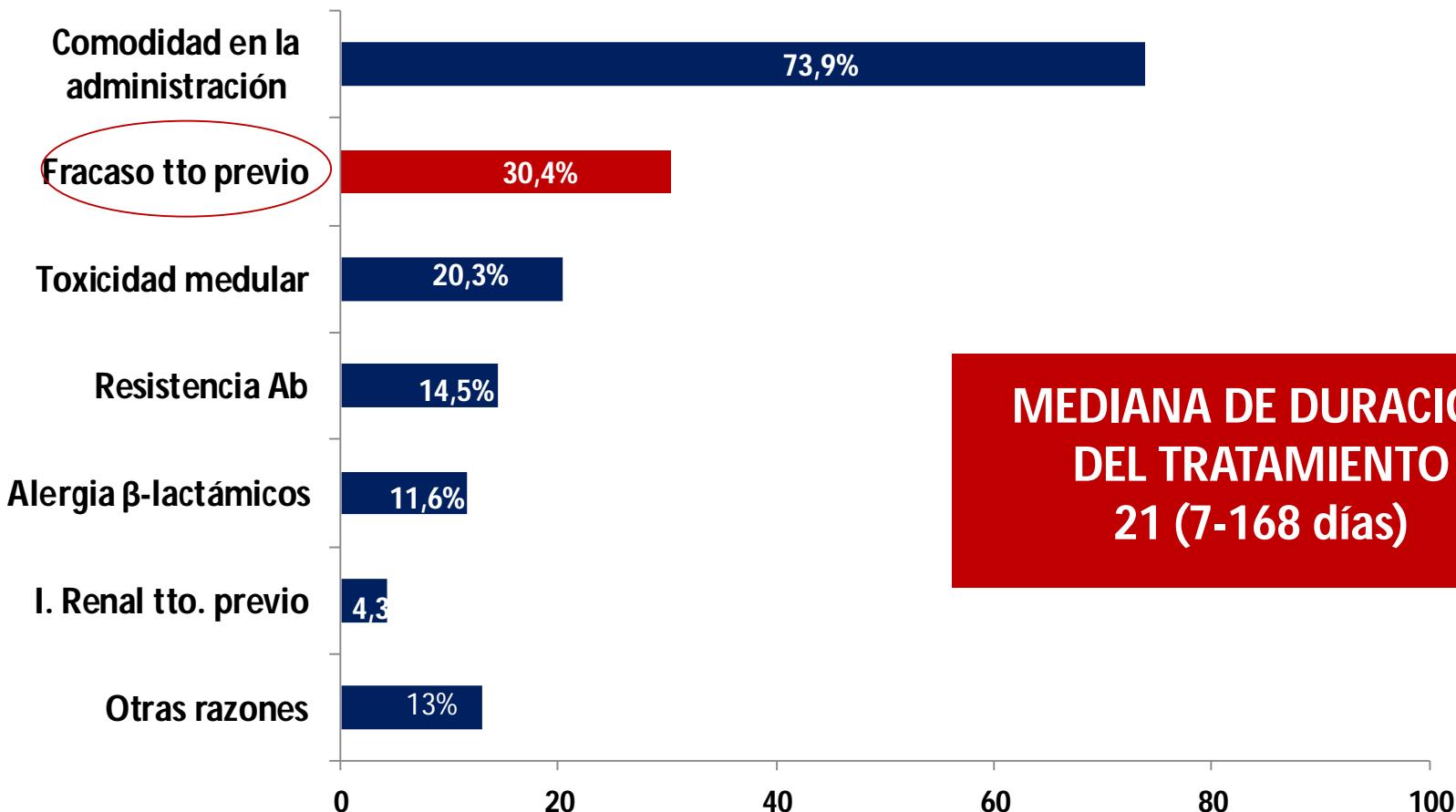


Infecciones dirigidas (61)

TIPO DE INFECCIÓN	Total N (%)	SCN	SAMR	SAMS	Enteroc.spp	Strept. spp	Otros
Infección de prótesis articular	19	13	3	1	1	0	1
Piel y tejidos blandos*	13	3	5	6	1	0	0
Osteomielitis*	10	3	3	1	2	0	3
Bacteremia-CVC*	7	3	3	2	1	0	0
Endocarditis	6	2	1	0	2	1	0
Inf. Intrabdominal	3	0	0	0	3	0	0
Otras	3	0	1	1	1	1	0
Total	61	24	16	11	11	2	4

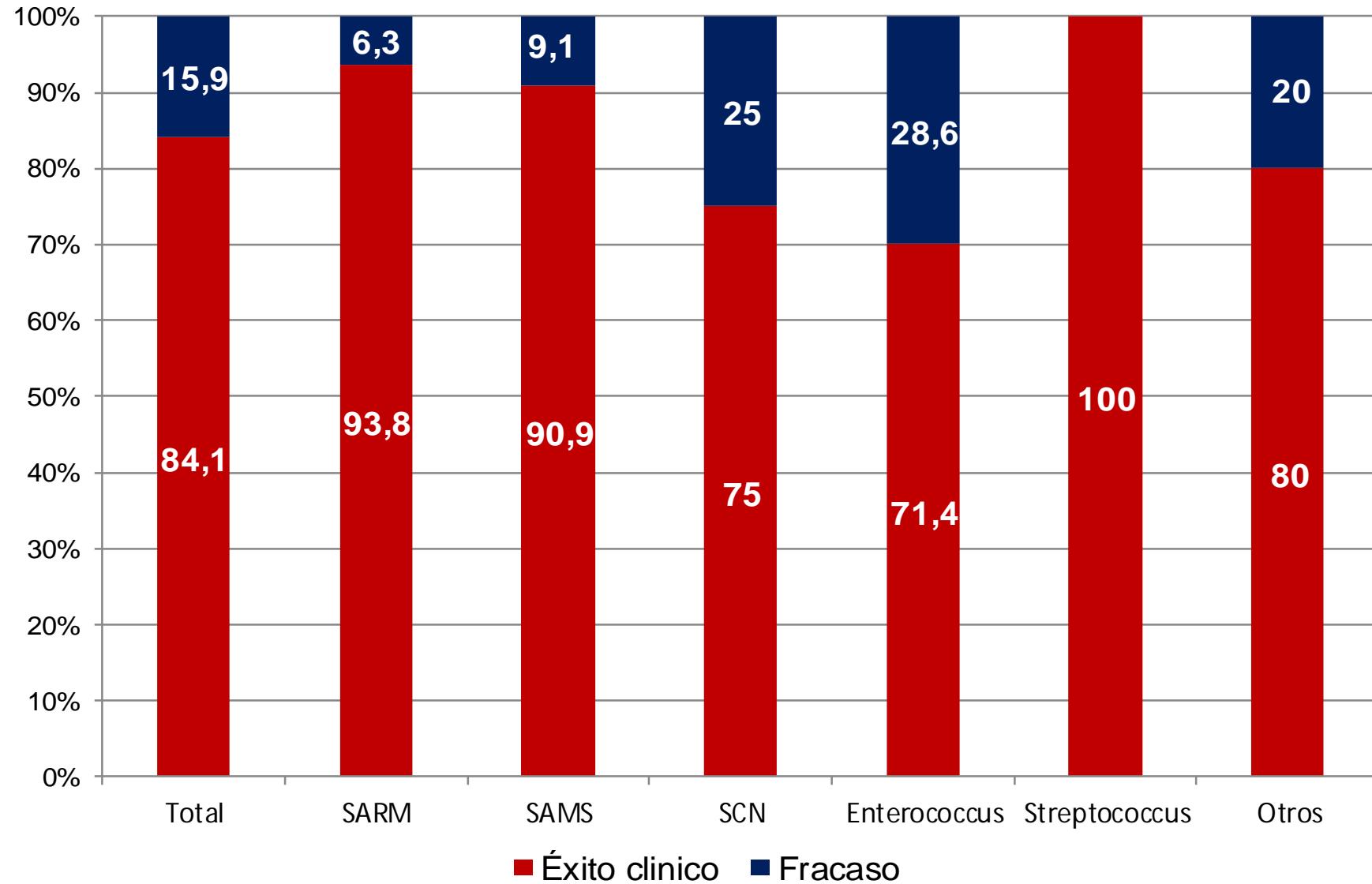
* Infecciones mixtas

Tratamiento antibiótico previo e indicación dalbavancina

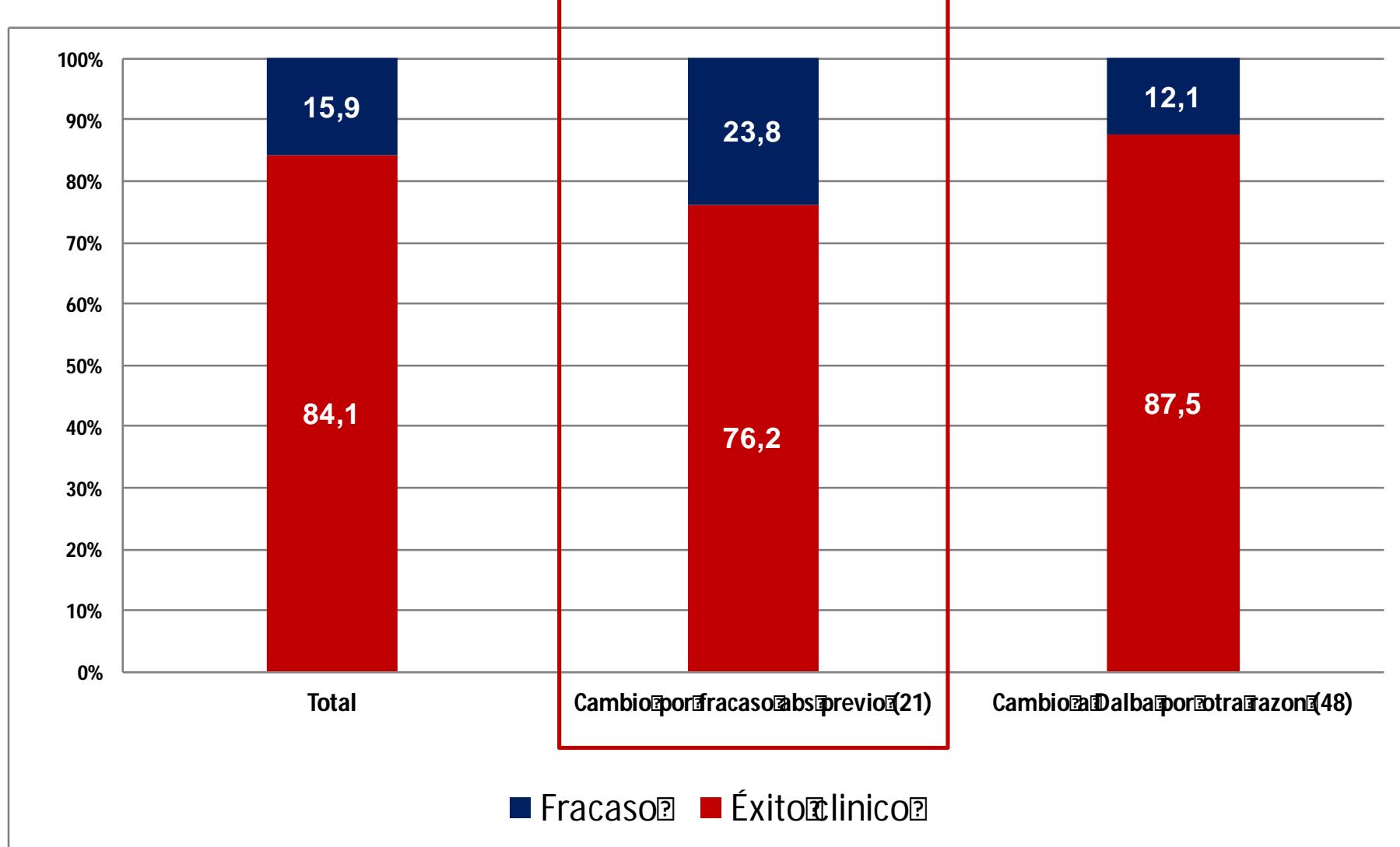


25 pacientes (36,2%) recibieron un antibiótico concomitante
De los 69 pacientes, 42 necesitaron control del foco, que se hizo
adequadamente en 31 de ellos (73,2%)

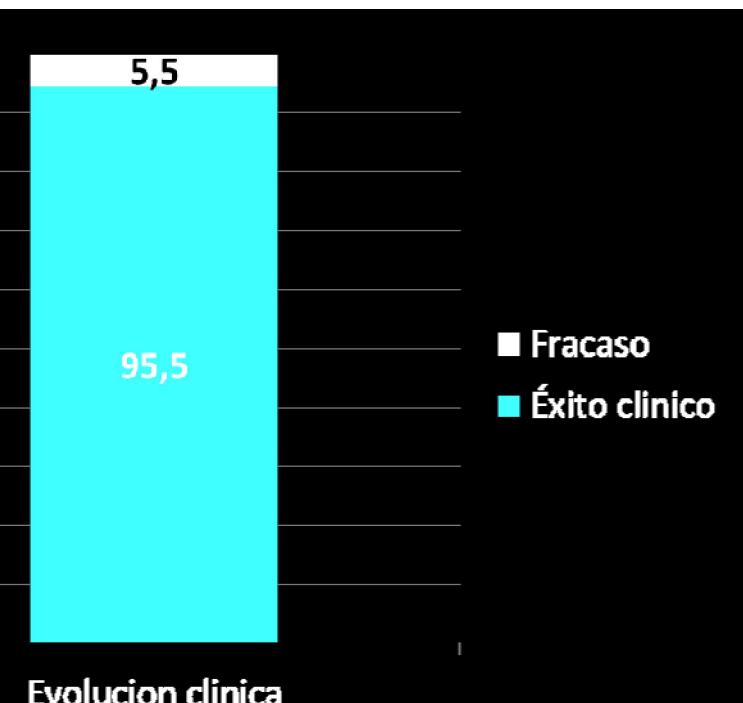
Evolución clínica (2)



Evolución clínica (3)



18 bacteriemias tratadas con Dalbavancina

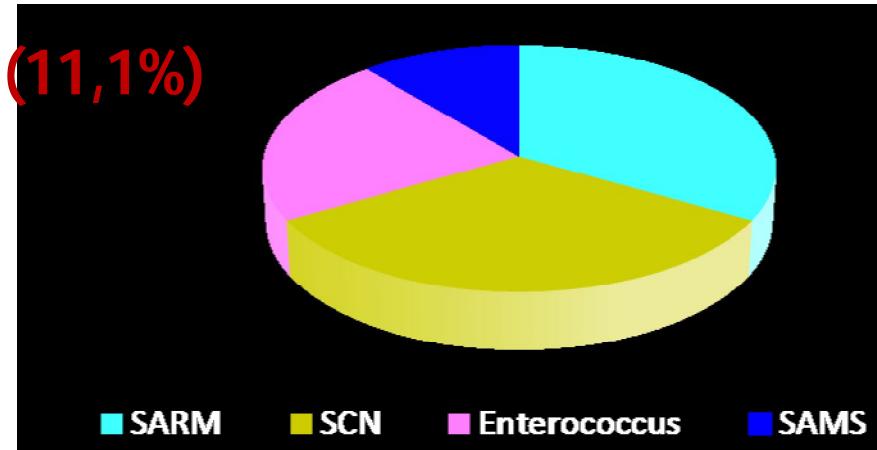


1. Bacteriemia- CVC, 7 (38,9%)

2. Endocarditis, 4 (22,2)

3. Inf. intra-abdominal, 2 (11,1%)

Tipo de microrganismo



**MEDIANA DE DURACIÓN
DEL TRATAMIENTO
14 (7-70 días)**

9 pacientes (50%) recibieron un tratamiento antibiótico concomitante

De los 18 pacientes, 8 necesitaron control del foco, que se hizo adecuadamente en 8 de ellos



Maricela Valerio y Antonio Vena

Precio aproximado de 7 días de tratamiento

	Precio 7 días (€)
Linezolid iv/po	50/61
Daptomicina (10 mg/k/d)	984
Ceftarolina (600/12)	808
Ceftarolina (600/8)	1212
Tedizolid (6 d)	1146
Dalbavancina (3 dosis 500)	1341

Potential contribution of novel and older agents in patient management

	INDICACIÓN BSI	SSTI	Potency	IV/oral switch	Toxicity	Early Discharge	OPAT IV or oral	INTERACCION	PRECIO
ancomicina			++	-	+++	+/-	+/-		
aptomicina			+++	-	++	++	++		
nezolid			+++	+++	++	+++	+++		
edizolid			++++	+++	+	+++	+++		
albavancina			+++	-	+	++	++		
eftarolina			++	-	+/-	-	-		

	Tedizolid	Oritavancin	Dalbavancin	Ceftaroline	Ceftobiprole
Drug class	Oxazolidinone	Lipoglycopeptide		Cephalosporin	
Spectrum	Most Gram positive bacteria, including anaerobes, streptococci, staphylococci and enterococci	Most Gram positive bacteria, including VRE ; small colony-variants of <i>S. aureus</i> , <i>mecC+</i> MRSA; VRSA (oritavancin); and some VISA/hVISA		Most Gram positive bacteria, including meticillin-resistant staphylococci <i>Enterobacteriaceae</i> (although not those with ESBL or ampC)	
Pharmacokinetics	Bio-availability, 91% Half life, 12 h Extensive tissue distribution Protein binding 80%	Half life > 250 h Extensive tissue distribution Protein binding 90%	Half life 350 h Extensive tissue distribution Protein binding 95%	Half life 2 h Good tissue distribution Protein binding 20% Time/MIC	Half life 3.5 h Good tissue distribution Protein binding 16% Time/MIC
Dosage	200 mg daily, IV or PO	1200 mg IV, only one dose	1000 mg IV day 1, 500 mg IV day 8	600 mg IV 2 times per day	500 mg IV 3 times per day
Approved for	ABSSSI	ABSSSI		ABSSSI and community-acquired pneumonia	
Weaknesses	Bacteriostatic Cost	Only IV Cost		Only IV Cost	Only IV Cost
Strengths	Oral drug Tissue diffusion No dose adjustment for renal failure Safety profile better	Bactericidal Long half life Convenient dosing Safety profile Reduce duration of inpatient stay		Bactericidal Safety profile Some Gram negative coverage	Bactericidal Safety profile Some Gram negative coverage
	than linezolid Active against <i>cfr+</i> <i>S. aureus</i>				
Comments	May be useful for CNS and osteo-articular infections	May be useful for osteo-articular, bloodstream, and foreign body-related infections		May be useful for bloodstream infections, including endocarditis Ceftaroline under development as a combination with avibactam	

ABSSSI, Acute bacterial skin and skin structure infections; CNS, central nervous system ; ESBL, Extended spectrum β-lactams; h, hours; IV, intravenous ; PO, orally; VISA/hVISA, (heteroresistant) vancomycin-intermediate *S. aureus*; VRE, vancomycin-resistant enterococci; VRSA, vancomycin-resistant *S. aureus*.



Muchas gracias