

Revisió ICAAC 2011 en infeccions per *S. aureus*

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Miller BA, et al.

A Prospective, Multicenter Cohort Study of 351,617 Surgical Procedures: The Updated Epidemiology of (SSI)

ICAAC 2011, abst K-477

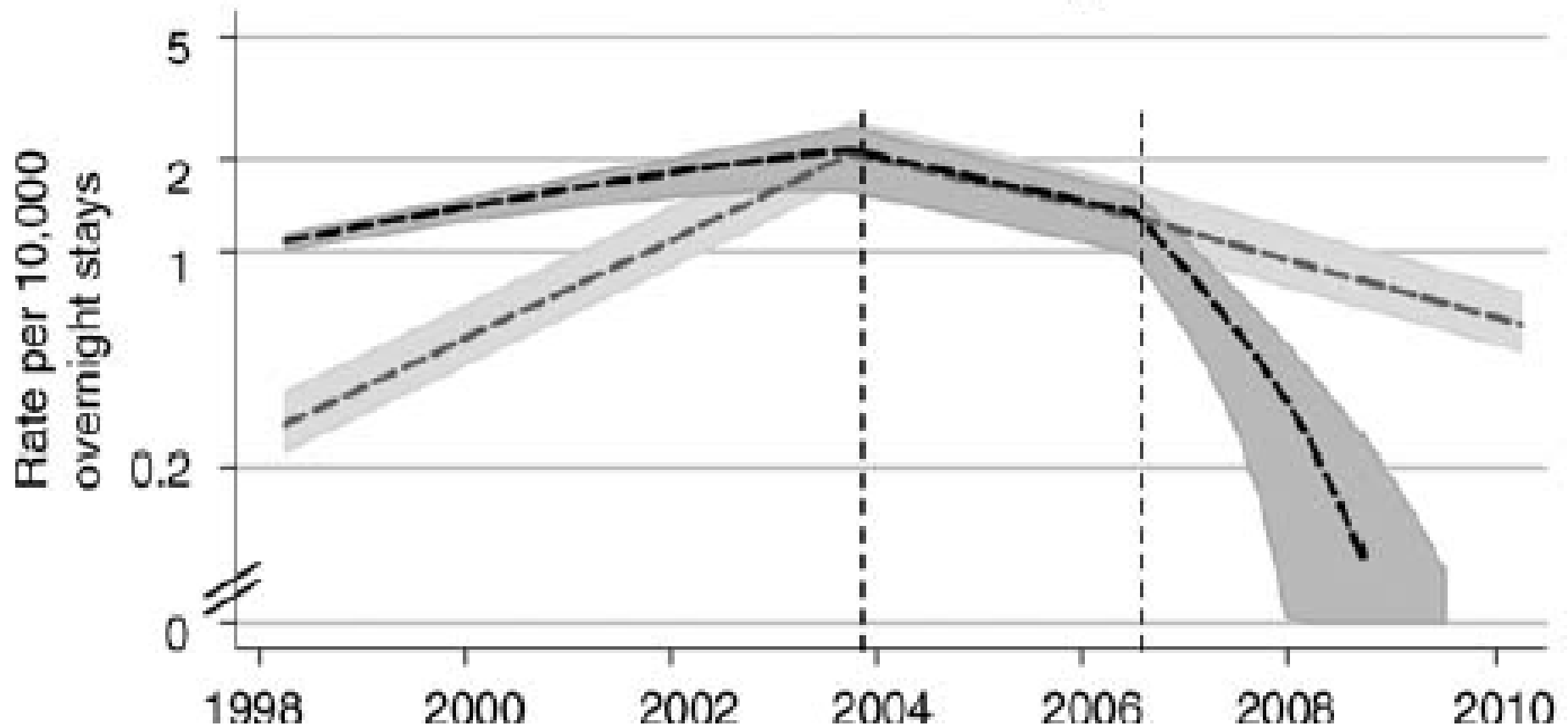
Year	2006		2007		2008		2009		2010		
No. Procedures	n=63,071		n=69,544		n=73,231		n=74,342		n=71,429		P-value
No. SSI (PR/100 procedures)	848 (1.34)		951 (1.37)		1013 (1.38)		965 (1.30)		787 (1.10)		<0.001
Organism	n (%)	Rate	n (%)	Rate	n (%)	Rate	n (%)	Rate	n (%)	Rate	
<i>Staph aureus</i>	277 (29)	0.38	294 (23)	0.30	362 (27)	0.31	311 (24)	0.28	277 (27)	0.24	0.14
MRSA	169 (18)	0.23	174 (14)	0.18	207 (15)	0.18	148 (12)	0.13	137 (13)	0.12	0.0034
MSSA	108 (11)	0.15	120 (10)	0.12	155 (11)	0.13	163 (13)	0.14	142 (14)	0.13	0.24

Wyllie D, et al.

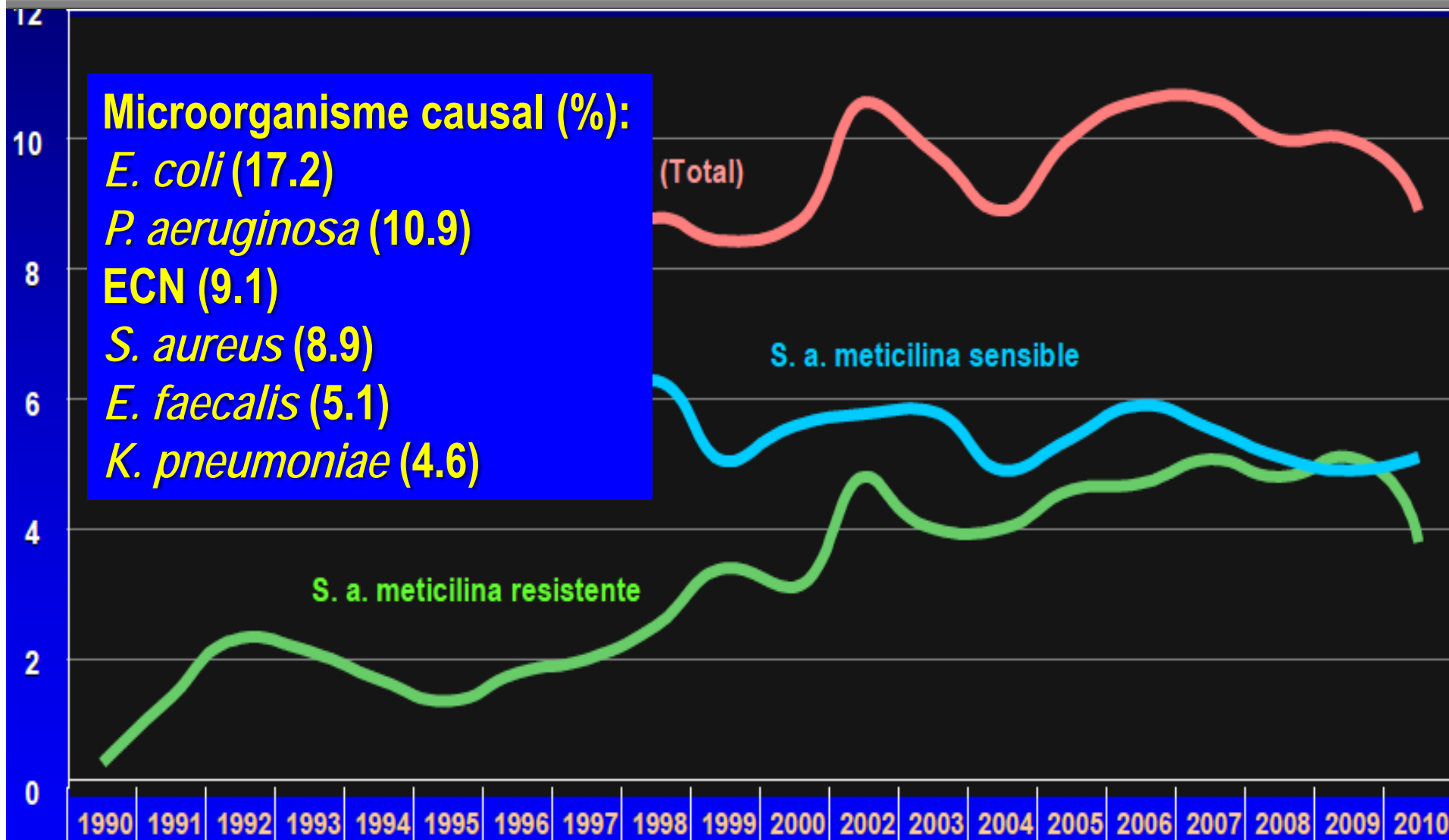
Waves of trouble: MRSA strain dynamics and assessment of the impact of infection control

J Antimicrob Chemother 2011 doi:10.1093/jac/dkr392

Estimated rates of isolation of MRSA ST36 and ST22 from blood cultures in the Oxford region



Prevalença de factors de risc en pacients amb infecció nosocomial. EPINE 1990-2010



Vindel A, et al.

**Evolution of MRSA clones in Spain (2006-2010):
A nationwide study.**

ICAAC 2011 C2-080 (C2-078)

Característica	2006	2010
Nº hospitales	145	152
<i>S. aureus</i>	463	548
SARM	135 (29.2)	153 (27.9)
Clon ST125 -IV	59.2%	55.5%
SARM- AC (PVL+)*	4	53**

* De todas las cepas recibidas en el ISCIII

** 15 USA300 (10 áreas geográficas diferentes)

Vindel A, et al.

Evolution of MRSA clones in Spain (2006-2010):

A nationwide study.

ICAAC 2011 C2-080

Patró de resistència	2006	2010
Eri+Cli+Cip+Tob	16.3	5.2
Eri+Cip+Tob	17	20.9
Eri+Cli+Gen+Cip+Tob	12.6	3.9
Cip+Tob	19.3	11.1

Kunkel M. et al.

Nosocomial Pneumonia due to MRSA (ZEPHYR)

IDSA 2010 (ClinicalTrials.gov: NCT00084266)

Población	Linezolid 600 mg/12h IV	Vancomicina 15 mg/kg/12h IV	Total
ITT			
{ NN: ≥48h de ingreso { HCAP: { 1.- Residencia { 2.- Ingreso previo (3m) { 3.- HD	597	587	1184
mITT			
{ Cultivo positivo { para SARM	224	224	448
PP			
{ 1.- 80% medicación { 2.- EOT { 3.- EOS	172	176	348

Diseño: multicéntrico, aleatorizado y doble ciego

Monitorización: c/ 3 d, EOT (72h fin atb) y EOS (7-30 d)

Kunkel M. et al.

Nosocomial Pneumonia due to MRSA (ZEPHYR)

IDSA 2010 (ClinicalTrials.gov: NCT00084266)

Objetivo primario: respuesta clínica en pacientes evaluables con cultivo positivo para SARM (PP) en la visita EOS.

Objetivos secundarios:

- 1) Respuesta clínica en EOS en la población mITT.
- 2) Respuesta clínica en EOT en las poblaciones mITT y PP.
- 3) Respuesta microbiológica en EOT y EOS en mITT y PP.
- 4) Supervivencia a los 60 días.
- 5) Análisis de seguridad en la población ITT

Diseño: multicéntrico, aleatorizado y doble ciego

Monitorización: c/ 3 d, EOT y EOS (7-30 d)

Kunkel M. et al.

Nosocomial Pneumonia due to MRSA (ZEPHYR)

IDSA 2010 (ClinicalTrials.gov: NCT00084266)

Características	Linezolid n=172	Vancomicina n=176	P
Edad media	60.7	61.6	-
Varón (%)	116 (67.4)	112 (63.6)	-
Peso (Kg)	78.1	76.5	-
APACHE II	17.2	17.4	-
CPIS score	9.7	9.4	-
OIT+VM (%)	125 (68.3)	140 (74.5)	-
Bacteriemia (%)	10 (5.5)	20 (10.6)	-

Kunkel M. et al.

Nosocomial Pneumonia due to MRSA (ZEPHYR)

IDSA 2010 (ClinicalTrials.gov: NCT00084266)

Objetivo	Linezolid n=172	Vancomicina n=176	P
<u>mITT</u>			
EOT (%)	80.1	67.8	0.004
EOS (%)	54.8	44.9	0.049
<u>PP</u>			
EOT	83.3	69.9	0.002
EOS	57.6	46.6	0.042
Erradicación EOT	81.9	60.6	<0.001
Erradicación EOS	58.1	47.1	0.043

Kunkel M. et al.

Nosocomial Pneumonia With Suspected Or Proven Methicillin-Resistant *Staphylococcus aureus* (MRSA) (ZEPHYR)

IDSA 2010 (ClinicalTrials.gov identifier: NCT00084266)

Características	Linezolid n=597	Vancomycin n=587	P
Anemia	30 (5.2)	42 (7.2)	-
Fracaso renal	23 (3.8)	42 (7.8)	-
Plaquetopenia	8 (1.3)	13 (2.2)	-
Neutropenia	2 (0.3)	1 (0.2)	-
Pancitopenia	2 (0.3)	1 (0.2)	-
Polineuropatia	2 (0.3)	0	-

Nefrotoxicidad <1% en los estudios de Rubinstein y Wunderink

Lodise TP. et al. Outcomes by Renal Function Among Patients Treated with Linezolid (LZD) vs. Vancomycin (VAN) for Nosocomial Pneumonia (NP) Caused by MRSA. ICAAC 2011 K-226

	CrCL >80			30 ≤ CrCl ≤80			10 ≤ CrCL <30		
	LZD (N=128)	VAN (N=115)	Risk Ratio ^b (95% CI)	LZD (N=75)	VAN (N=78)	Risk Ratio ^b (95% CI)	LZD (N=13)	VAN (N=23)	Risk Ratio ^b (95% CI)
Clinical success: EOT	97/114 (85.1)	77/111 (69.4)	14% 1.2 (1.1 to 1.4)	50/68 (73.5)	48/75 (64.0)	9% 1.1 (0.9 to 1.4)	8/11 (72.7)	15/22 (68.2)	4% 1.1 (0.7 to 1.7)
Clinical success: EOS	67/105 (63.8)	56/108 (51.9)	12% 1.2 (1.0 to 1.6)	27/64 (42.2)	24/71 (33.8)	9% 1.2 (0.8 to 1.9)	6/12 (50.0)	10/19 (52.6)	-2% 1.0 (0.5 to 1.9)
Microbiologic success: EOT	92/116 (79.3)	67/112 (59.8)	20% 1.3 (1.1 to 1.6)	52/68 (76.5)	39/76 (51.3)	25% 1.5 (1.2 to 1.9)	10/11 (90.9)	16/23 (69.6)	21% 1.3 (0.9 to 1.8)
Microbiologic success: EOS	70/108 (64.8)	58/110 (52.7)	12% 1.2 (1.0 to 1.5)	31/70 (44.3)	25/72 (34.7)	10% 1.3 (0.8 to 1.9)	7/12 (58.3)	11/20 (55.0)	3% 1.1 (0.6 to 2.0)

Lodise TP. et al. Outcomes by Renal Function Among Patients Treated with Linezolid (LZD) vs. Vancomycin (VAN) for Nosocomial Pneumonia (NP) Caused by MRSA. ICAAC 2011 K-226

Characteristics	CrCL >80 (N=115)	30 ≤ CrCl ≤ 80 (N=78)	10 ≤ CrCL <30 (N=23)
Trough day 3, n/mean (SD)	82/11.4 (5.8)	59/17.4 (10.1)	20/19.2 (10.2)
<15, n (%)	65 (79.3)	33 (55.9)	8 (40.0)
15 to 20, n (%)	11 (13.4)	10 (16.9)	3 (15.0)
>20, n (%)	6 (7.3)	16 (27.1)	9 (45.0)
Trough day 6, n/mean (SD)	54/13.6 (6.1)	36/20.3 (9.3)	15/21.5 (0.3)
<15, n (%)	37 (68.5)	12 (33.3)	5 (33.3)
15 to 20, n (%)	10 (18.5)	8 (22.2)	2 (13.3)
>20, n (%)	7 (13.0)	16 (44.4)	8 (53.3)

Lodise TP. et al. Outcomes by Renal Function Among Patients Treated with Linezolid (LZD) vs. Vancomycin (VAN) for Nosocomial Pneumonia (NP) Caused by MRSA. ICAAC 2011 K-226

	CrCL >80		30 ≤ CrCl ≤80		10 ≤CrCL <30	
	LZD (N=128)	> VAN (N=115)	LZD (N=75)	= VAN (N=78)	LZD (N=13)	= VAN (N=23)
Patients with AE, n (%)	115 (89.8)	101 (87.8)	72 (96.0)	71 (91.0)	11 (84.6)	20 (87.0)
Patients with SAE, n (%)	43 (33.6)	27 (24.3)	35 (46.7)	42 (53.8)	8 (61.5)	9 (39.1)
Patients with DRAE, n (%)	40 (31.3)	35 (30.4)	23 (30.7)	25 (32.1)	12 (15.4)	8 (34.8)
Patients discontinued because of AE, n (%)	7 (5.5)	7 (6.1)	5 (6.7)	7 (9.0)	0	3 (13.0)
Rash, n (%)	14 (10.9)	7 (6.1)	5 (6.7)	8 (10.3)	3 (23.1)	1 (4.3)
IV catheter-site complications, n (%)	5 (3.9)	6 (5.2)	4 (5.3)	3 (3.8)	0	2 (8.7)
Thrombocytopenia, n (%) ^a	14 (10.9)	6 (5.2)	17 (22.7)	19 (24.4)	4 (30.8)	3 (13.0)
Acute kidney injury*	38/127 (29.9)	= 40/113 (35.4)	11/73 (15.1)	< 22/77 (28.6)	2/12 (16.7)	< 7/22 (31.8)

Chin J, et al. Clinical Outcomes in Patients with MRSA zxd (PNA) Treated with Linezolid (LIN) vs. Vancomycin (VAN) Dosed at AUC/MIC > 400 µg/hr/ml. ICAAC 2011 K-1458

Característica *	Linezolid (n=25)	Vancomicina (n=30)
CIM van = 1 mg/L	-	93%
Valor medio	-	500
AUC/CIM		
Edad (años)	75	69
APACHE II	17	20
Mortalidad (%)	16	16.7
Días VM	6.5	10.5
Readmisión UCI (%)	12.5	22.2
Recidiva clínica (%)	19	4.3
Curación (%)	76	80

*** Estudio retrospectivo**

Picazo JJ, et al

***Staphylococcus aureus* resistente a meticilina: sensibilidad a la daptomicina a lo largo de un periodo de 10 años (2001-2010)**

Rev Esp Quimioter 2011; 24: 107-11

Antimicrobiano	Intervalo	CMI (mg/L)	
		50%	90%
Daptomicina	0,25 – 1	0.5	0.5
Vancomicina	≤0,5 – 2	1	1
Teicoplanina	≤0,5 – 8	≤0,5	1
Linezolid	1 – 8	2	2
Ciprofloxacino	≤0,25 – >4	>4	>4

Padilla, et al

Outbreak of Linezolid-Resistant MRSA in a Post-Surgical Intensive Care Unit.

ICAAC 2011 K-238

Guasch O, et al.

Predictive Factors for Overall Mortality (OM) in Patients with MRSA BSI. Prospective Study in 22 Spanish Hospitals

ICAAC 2011 K-950

Factors	OR	95%CI
Age > 70	1.8	1.3-2.4
Pitt > 1	3.3	2.4-4.4
McCabe > 1	1.8	1.3-2.5
No nosocomial	3.3	2.4-4.4
Focus d'alt risc	1.6	1.2-2.2
Atb inapropiat	1.5	1.1-2.0

*** N = 579**

Guasch O, et al.

Predictive Factors for Persistence of MRSA Bloodstream infection (BSI). Prospective Study in 22 Spanish Hospitals

ICAAC 2011 K-882

Factors*	OR	95%CI	
Pitt score > 3	2.27	1.23-4.17	} > 2 dies
Atb apropiat	1.72	1.04-2.85	
McCabe > 3	2.58	1.19-5.61	
Metàstasi sèptica	3.28	1.9-5.7	} > 7 dies
Endocarditis	3.75	1.42-9.88	

* N = 579

Parasrampuria R, et al. Comparative Pharmacodynamics of Daptomycin (DAP), Telavancin (TV) and Vancomycin (VAN) Against S. aureus hemB Mutants Displaying the Small Colony Variant (SCV) Phenotype at High Bacterial Density. ICAAC 2011 A2-017

Antibiótico	Reducción Log UFC*	
	FN	SCV
Vancomicina	2.5-4.5	1.2-1-5
Telavancin	2.3-2.4	-
Daptomicina	7.8-8	7.6-5.6

* a las 48h de exposición

Footer BW, et al. Comparing Daptomycin to Vancomycin for Time to Eradication of MRSAB. ICAAC 2011 L1-273

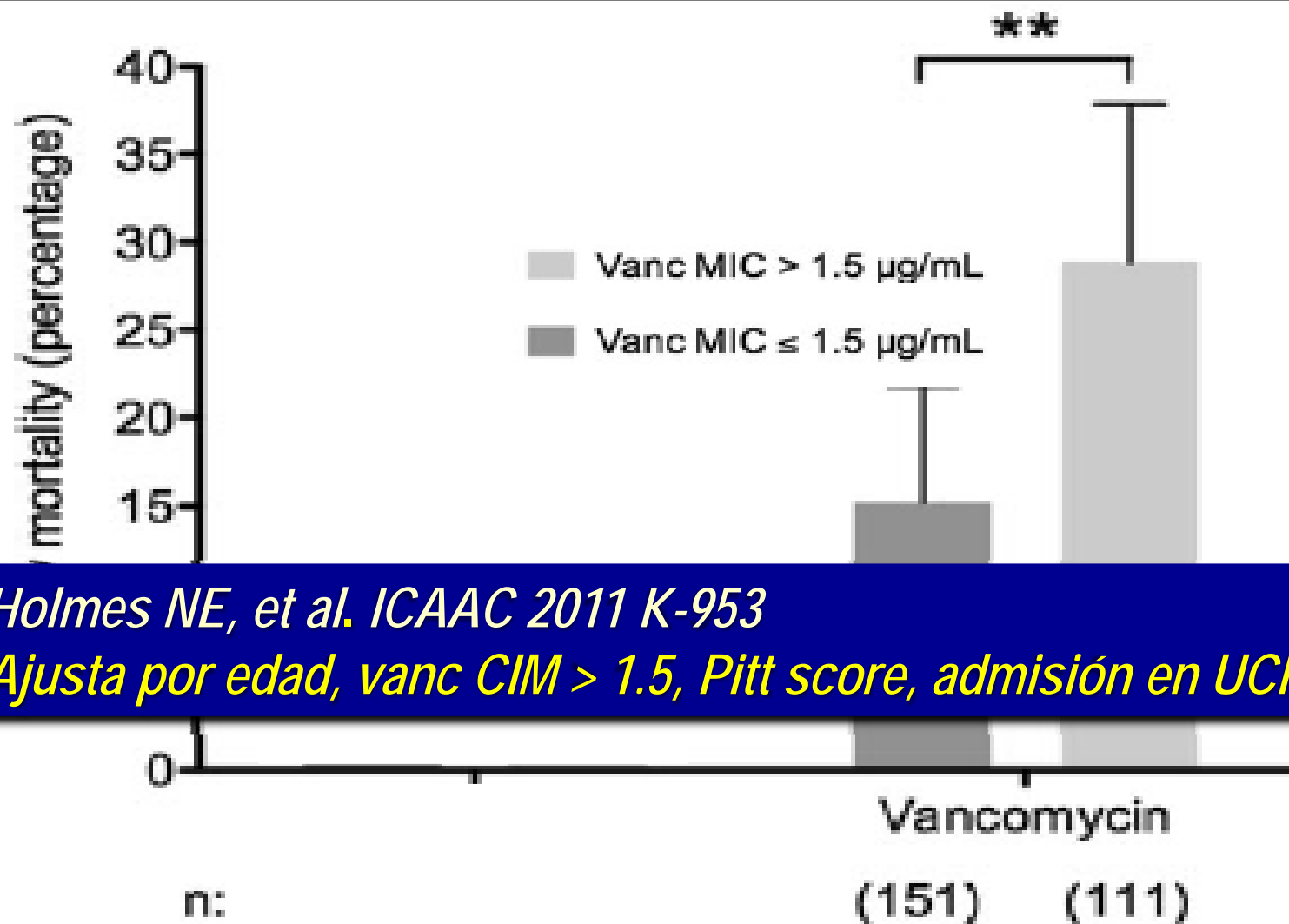
Antibiótico	Vanco (n=70)	Dapto (n=14)	Vanco →dapto (n=17)
Días de bacteriemia	5.8	4.2*	5.2
Erradicación (%)	84	100**	-
Mortalidad (%)	34	12***	-

* p= 0.16, ** p= 0.11, *** p= 0.08

Fernandes C, et al. Development of Daptomycin Resistance While on Therapy Leading to Therapeutic Failure. ICAAC 2011 L1-218

Característica	Selección de una cepa con CIM de daptomicina > 1 mg/L (n=8)
Tto previo con vancomicina	8
Dosis de daptomicina	6 mg/kg
MRSA	7
Endocarditis (izq)	5 (3)

Holmes NE, et al. Antibiotic Choice May Not Explain Poorer Outcomes in Patients With Staphylococcus aureus Bacteremia and High Vancomycin Minimum Inhibitory Concentrations. J Infect Dis 2011; 204: 340-7



Holmes NE, et al. ICAAC 2011 K-953

Ajusta por edad, vanc CIM > 1.5, Pitt score, admisión en UCI.

Obeid KM, et al. Long Term Outcomes of Cardiovascular Implantable Electronic Devices (CIED) in Patients with Staphylococcus aureus Bacteremia (SAB) from a Distant Source. ICAAC 2011 K-1436

23 pacientes desarrollan bacteriemia a distancia del MCP

10 infección MCP (43.5%)

Demora tto apropiado:

30h vs 15h (p=0.05)

Días de BP:

14 vs 2 (p=0.001)

CIM de vancomicina:

1.7 vs 1.9 (p=0.05)

13 no infección MCP (56.5%)

Lora-Tamayo J, et al. Prosthesis Joint Infection (PJI) by S. aureus (SA): Prognosis after Debridement, Antibiotics and Implant Retention (DAIR). ICAAC 2011 K-241

Factor independiente

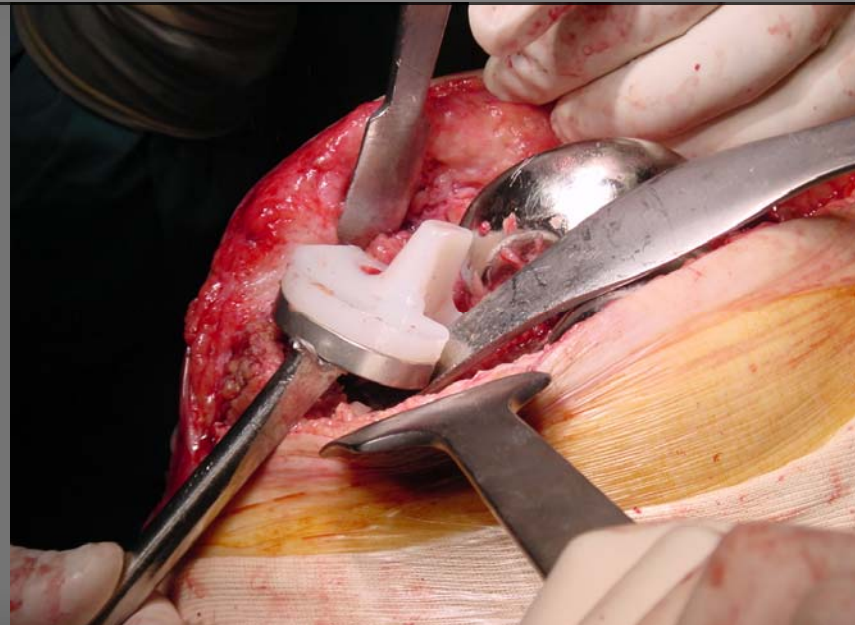
HR, IC95%

Tto inmunosupresor

Valor de PCR

> 1 desbridamiento

Recambio del PE



N = 259

Erice A, et al. Linezolid for Orthopedic Infections Caused by Gram-Positive Resistant Microorganisms. ICAAC 2011 K-244

Característica	Resultado
Nº pacientes	69
Osteomielitis post-fractura / IQ columna / fractura abierta	35 / 12 / 4
Artritis séptica / prótesis	10 / 8
SASM/ SARM / ECN-SM / ECN-RM	7 / 42 / 4 / 16
Duración media del tto (días)	40 (95% ambulatorio)
Remisión	58 (84%)