Antibiòtics – Infeccions
Destacats any 2011

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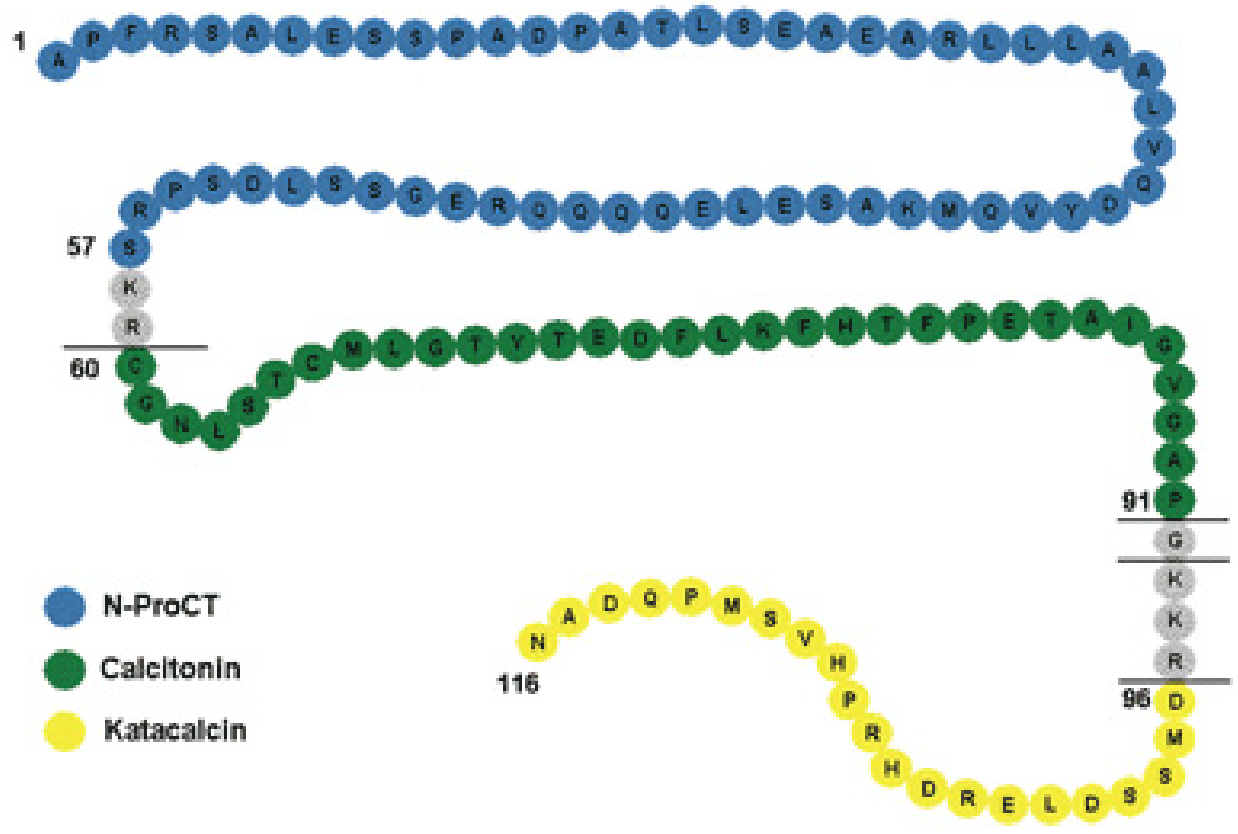
Procalcitonina y tratamiento antibiótico



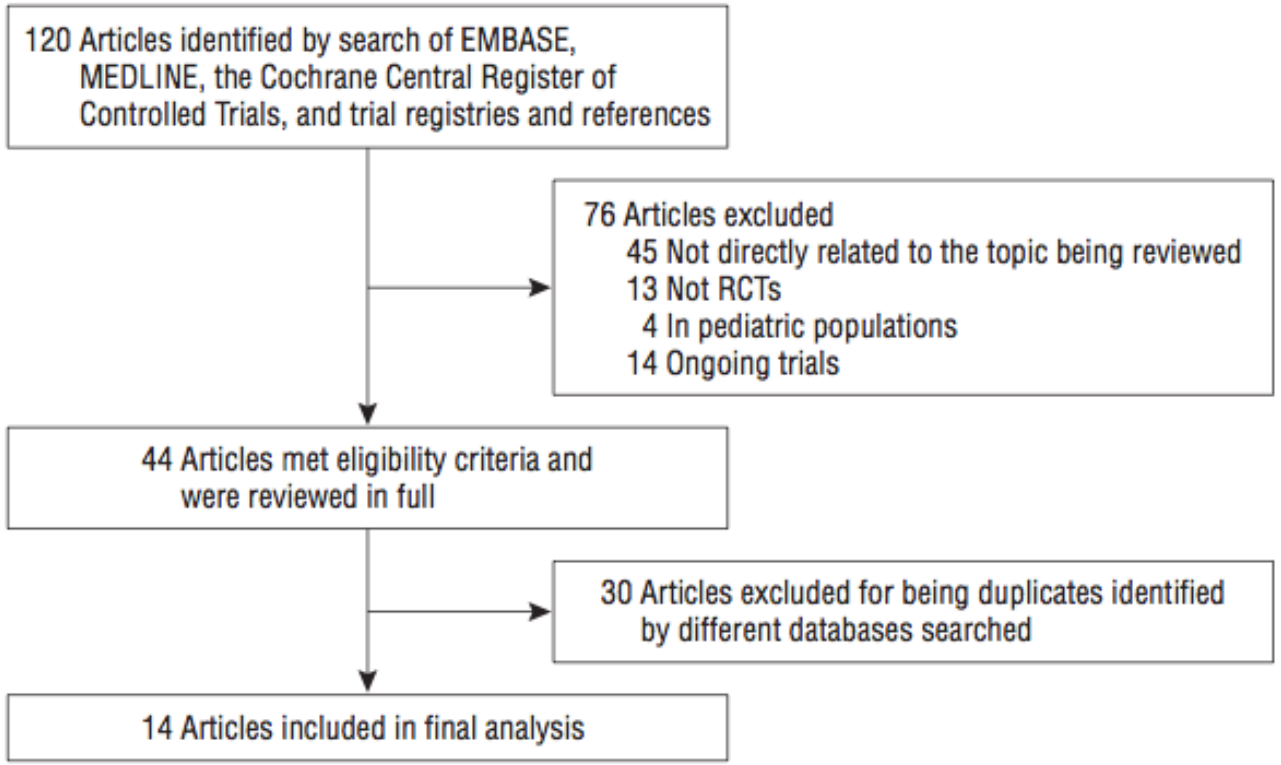
REVIEW ARTICLE

Procalcitonin Algorithms for Antibiotic Therapy Decisions

A Systematic Review of Randomized Controlled Trials and Recommendations for Clinical Algorithms

Philipp Schuetz, MD, MPH; Victor Chiappa, MD; Matthias Briel, MD, MSc; Jeffrey L. Greenwald, MD

Arch Intern Med. 2011;171(15):1322-1331


120 Articles identified by search of EMBASE, MEDLINE, the Cochrane Central Register of Controlled Trials, and trial registries and references
76 Articles excluded
45 Not directly related to the topic being reviewed
13 Not RCTs
4 In pediatric populations
14 Ongoing trials
44 Articles met eligibility criteria and were reviewed in full
30 Articles excluded for being duplicates identified by different databases searched
14 Articles included in final analysis

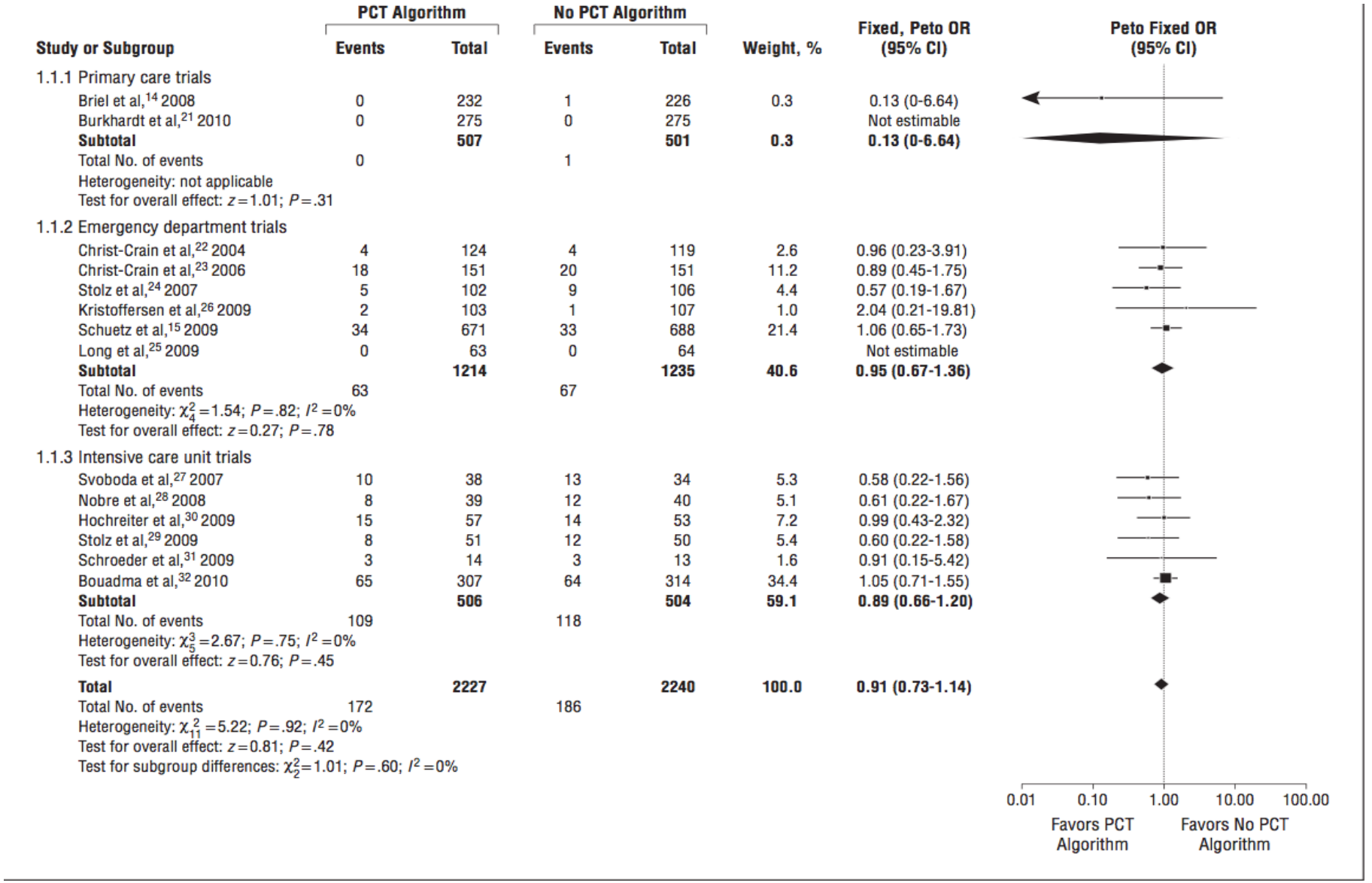


Figure 2. Mortality rate in the procalcitonin (PCT) and control groups. The forest plot depicts the Peto odds ratios (ORs) with 95% confidence intervals (CIs), comparing patients treated in the PCT and control groups in different trials and clinical settings.

Resultados más relevantes

- Menor prescripción antibiótica en el grupo procalcitonina: rango reducción 74-11%.

- Menor duración de tratamiento: rango 55-15%

Resultados más relevantes

- Estas diferencias no se asociaron con un aumento en resultados clínicos adversos.

- Mortalidad: 7,7% en grupo PCT frente a 8,3% en grupo control (OR: 0,91).

- Schuetz P, et al. *Arch Intern Med.* 2011;171(15):1322-1331

Guías clínicas

Guías clínicas

IDSA GUIDELINES

Executive Summary: Clinical Practice Guideline for the Use of Antimicrobial Agents in Neutropenic Patients with Cancer: 2010 Update by the Infectious Diseases Society of America

Alison G. Freifeld,[1] Eric J. Bow,[9] Kent A. Sepkowitz,[2] Michael J. Boeckh,[4] James I. Ito,[5] Craig A. Mullen,[3] Issam I. Raad,[6] Kenneth V. Rolston,[6] Jo-Anne H. Young,[7] and John R. Wingard[8]

Clinical Infectious Diseases 2011;52(4):427–431

Table 1. Common Bacterial Pathogens in Neutropenic Patients

Common gram-positive pathogens
Coagulase-negative staphylococci
Staphylococcus aureus, including methicillin-resistant strains
Enterococcus species, including vancomycin-resistant strains
Viridans group streptococci
Streptococcus pneumoniae
Streptococcus pyogenes
Common gram-negative pathogens
Escherichia coli
Klebsiella species
Enterobacter species
Pseudomonas aeruginosa
Citrobacter species
Acinetobacter species
Stenotrophomonas maltophilia

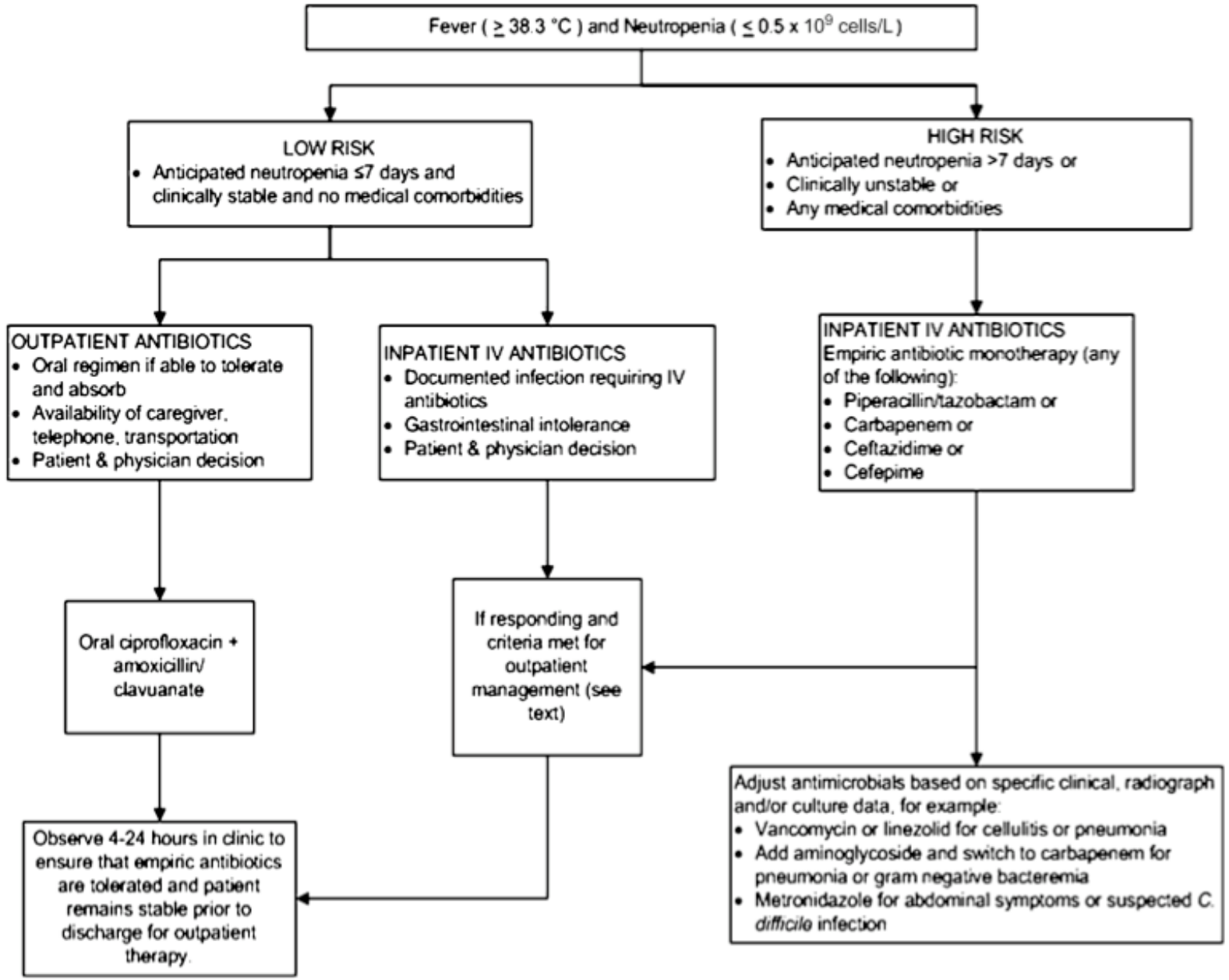


Figure 1. Initial management of fever and neutropenia. *Limited data to support recommendation. ANC, absolute neutrophil count; CT, computed tomography; MRI, magnetic resonance imaging.

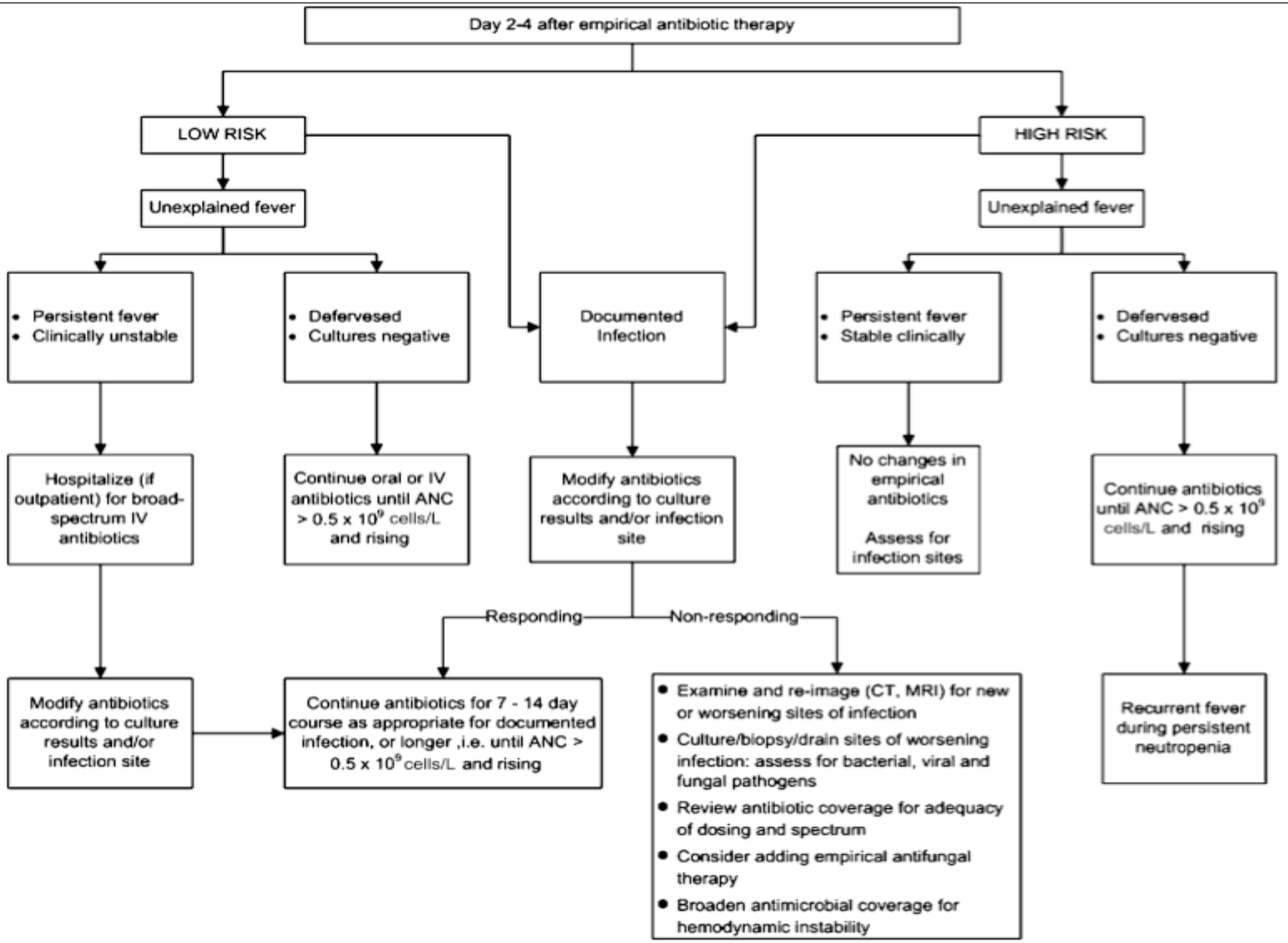


Figure 2. Reassess after 2-4 days of empirical antibiotic therapy. ANC, absolute neutrophil count; CT, computed tomography; IV, intravenous; MRI,

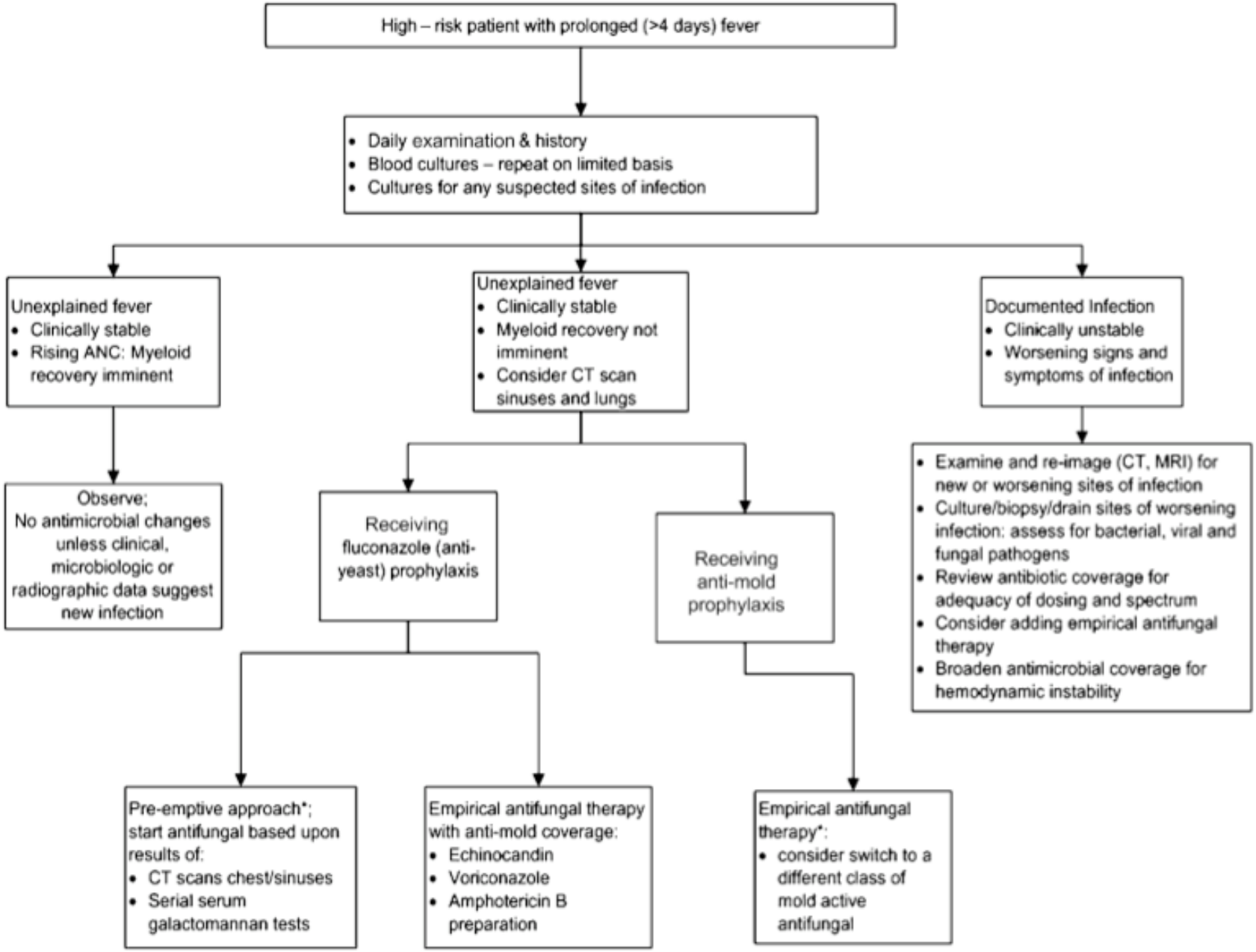


Figure 3. High-risk patient with fever after 4 days of empirical antibiotics. *C. difficile, Clostridium difficile*; IV, intravenous.

Tratamiento antibiótico empírico en neutropenia febril

- Cefepime
- Meropenem
- Imipenem
- Piperacilina/tazobactam

AI

Tratamiento antibiótico empírico en neutropenia febril

- + aminoglucósidos
- Ciprofloxacino
- Vancomicina

BIII

Si complicaciones (hipotensión, neumonía) o resistencia antibiótica.

Tratamiento antibiótico empírico en neutropenia febril

- No vancomicina u otros ATB activos frente a gram+ como regimen estandar

AI

Tratamiento antibiótico empírico oral en neutropenia febril

- Ciprofloxacino + amoxicilina/clavulánico

AI

IDSA GUIDELINES

Executive Summary: The Management of Community-Acquired Pneumonia in Infants and Children Older Than 3 Months of Age: Clinical Practice Guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America

John S. Bradley,[1,a] Carrie L. Byington,[2,a] Samir S. Shah,[3,a] Brian Alverson,[4] Edward R. Carter,[5] Christopher Harrison,[6] Sheldon L. Kaplan,[7] Sharon E. Mace,[8] George H. McCracken Jr,[9] Matthew R. Moore,[10] Shawn D. St Peter,[11] Jana A. Stockwell,[12] and Jack T. Swanson[13]

Clinical Infectious Diseases 2011;53(7):617–630

Table 2. Complications Associated With Community-Acquired Pneumonia

Pulmonary
Pleural effusion or empyema
Pneumothorax
Lung abscess
Bronchopleural fistula
Necrotizing pneumonia
Acute respiratory failure
Metastatic
Meningitis
Central nervous system abscess
Pericarditis
Endocarditis
Osteomyelitis
Septic arthritis
Systemic
Systemic inflammatory response syndrome or sepsis
Hemolytic uremic syndrome

Table 3. Criteria for Respiratory Distress in Children With Pneumonia

Signs of Respiratory Distress
1. Tachypnea, respiratory rate, breaths/min[a]
Age 0–2 months: >60
Age 2–12 months: >50
Age 1–5 Years: >40
Age >5 Years: >20
2. Dyspnea
3. Retractions (suprasternal, intercostals, or subcostal)
4. Grunting
5. Nasal flaring
6. Apnea
7. Altered mental status
8. Pulse oximetry measurement <90% on room air

[a] Adapted from World Health Organization criteria.

Table 7. Empiric Therapy for Pediatric Community-Acquired Pneumonia (CAP)

Site of care	Empiric therapy		
	Presumed bacterial pneumonia	Presumed atypical pneumonia	Presumed influenza pneumonia[a]
Outpatient			
<5 years old (preschool)	Amoxicillin, oral (90 mg/kg/day in 2 doses[b]); alternative: oral amoxicillin clavulanate (amoxicillin component, 90 mg/kg/day in 2 doses[b])	Azithromycin oral (10 mg/kg on day 1, followed by 5 mg/kg/day once daily on days 2–5); alternatives: oral clarithromycin (15 mg/kg/day in 2 doses for 7-14 days) or oral erythromycin (40 mg/kg/day in 4 doses)	Oseltamivir
≥5 years old	Oral amoxicillin (90 mg/kg/day in 2 doses[b] to a maximum of 4 g/day[c]); for children with presumed bacterial CAP who do not have clinical, laboratory, or radiographic evidence that distinguishes bacterial CAP from atypical CAP, a macrolide can be added to a β-lactam antibiotic for empiric therapy; alternative: oral amoxicillin clavulanate (amoxicillin component, 90 mg/kg/day in 2 doses[b] to a maximum dose of 4000 mg/day, eg, one 2000-mg tablet twice daily[b])	Oral azithromycin (10 mg/kg on day 1, followed by 5 mg/kg/day once daily on days 2–5 to a maximum of 500 mg on day 1, followed by 250 mg on days 2–5); alternatives: oral clarithromycin (15 mg/kg/day in 2 doses to a maximum of 1 g/day); erythromycin, doxycycline for children >7 years old	Oseltamivir or zanamivir (for children 7 years and older); alternatives: peramivir, oseltamivir and zanamivir (all intravenous) are under clinical investigation in children; intravenous zanamivir available for compassionate use
Inpatient (all ages)[d]			
Fully immunized with conjugate vaccines for *Haemophilus influenzae* type b and *Streptococcus pneumoniae*; local penicillin resistance in invasive strains of pneumococcus is minimal	Ampicillin or penicillin G; alternatives: ceftriaxone or cefotaxime; addition of vancomycin or clindamycin for suspected CA-MRSA	Azithromycin (in addition to β-lactam, if diagnosis of atypical pneumonia is in doubt); alternatives: clarithromycin or erythromycin; doxycycline for children >7 years old; levofloxacin for children who have reached growth maturity, or who cannot tolerate macrolides	Oseltamivir or zanamivir (for children ≥7 years old; alternatives: peramivir, oseltamivir and zanamivir (all intravenous) are under clinical investigation in children; intravenous zanamivir available for compassionate use
Not fully immunized for *H, influenzae* type b and *S. pneumoniae*; local penicillin resistance in invasive strains of pneumococcus is significant	Ceftriaxone or cefotaxime; addition of vancomycin or clindamycin for suspected CA-MRSA; alternative: levofloxacin; addition of vancomycin or clindamycin for suspected CA-MRSA	Azithromycin (in addition to β-lactam, if diagnosis in doubt); alternatives: clarithromycin or erythromycin; doxycycline for children >7 years old; levofloxacin for children who have reached growth maturity or who cannot tolerate macrolides	As above

IDSA GUIDELINES

International Clinical Practice Guidelines for the Treatment of Acute Uncomplicated Cystitis and Pyelonephritis in Women: A 2010 Update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases

Kalpana Gupta,[1] Thomas M. Hooton,[2] Kurt G. Naber,[9] Björn Wullt,[10] Richard Colgan,[3] Loren G. Miller,[4] Gregory J. Moran,[5] Lindsay E. Nicolle,[8] Raul Raz,[11] Anthony J. Schaeffer,[6] and David E. Soper[7]

Clinical Infectious Diseases 2011;52(5):e103–e120

Table 4. Treatment Regimens and Expected Early Efficacy Rates for Acute Uncomplicated Cystitis

Drug (dosage)	Mean percentage (range)			
	Estimated clinical efficacy[ab]	Estimated microbiological efficacy[b]	Common side effects	References
Nitrofurantoin monohydrate/ macrocrystals (100 mg twice daily for 5–7 days)	93 (84–95)	88 (86–92)	Nausea,headache	[36, 37, 39]
Trimethoprim-sulfamethoxazole (160/800 mg twice daily for 3 days)	93 (90–100)	94 (91–100)	Rash, urticaria,nausea, vomiting, hematologic	[36, 37]
Fosfomycin trometamol (3 g single-dose sachet)	91	80 (78–83)	Diarrhea, nausea,headache	[39, 40]
Pivmecillinam (400 mg twice daily for 3–7 days)	73 (55–82)	79 (74–84)	Nausea, vomiting, diarrhea	[29, 43]
Fluoroquinolones (dose varies by agent; 3–day regimen)[c]	90 (85–98)	91 (81–98)	Nausea/vomiting, diarrhea, headache, drowsiness, insomnia	[35, 43, 44, 46–52]
β-lactams (dose varies by agent; 3–5 day regimen)[d]	89 (79–98)	82 (74–98)	Diarrhea, nausea, vomiting, rash, urticaria	[38, 52, 54]

Pielonefritis

- Ciprofloxacino, siempre que las resistencias de uropatógenos no superen el 10%. AI

- Ceftriaxona o un aminoglucósido. BIII

Clinical Infectious Diseases Advance Access published January 4, 2011

IDSA GUIDELINES

Clinical Practice Guidelines by the Infectious Diseases Society of America for the Treatment of Methicillin-Resistant *Staphylococcus Aureus* Infections in Adults and Children

Catherine Liu,[1] Arnold Bayer,[3,5] Sara E. Cosgrove,[6] Robert S. Daum,[7] Scott K. Fridkin,[8] Rachel J. Gorwitz,[9] Sheldon L. Kaplan,[10] Adolf W. Karchmer,[11] Donald P. Levine,[12] Barbara E. Murray,[14] Michael J. Rybak,[12,13] David A. Talan,[4,5] and Henry F. Chambers[1,2]

Clinical Infectious Diseases 2011;1–38

Table 3. Recommendations for the Treatment of Methicillin-Resistant *Staphylococcus aureus* (MRSA)

Manifestation	Treatment	Adult dose	Pediatric dose	Class[a]	Comment
Skin and soft-tissue infection (SSTI)					
Abscess, furuncles, carbuncles	Incision and drainage			All	For simple abscesses or boils, incision and drainage is likely adequate. Please refer to Table 2 for conditions in which antimicrobial therapy is recommended after incision and drainage of an abscess due to CA-MRSA.
Purulent cellulitis (defined as cellulitis associated with purulent drainage or exudate in the absence of a drainable abscess)	Clindamycin	300–450 mg PO TID	10–13 mg/kg/dose PO every 6–8 h, not to exceed 40 mg/kg/day	All	*Clostridium difficile*–associated disease may occur more frequently, compared with other oral agents.
	TMP-SMX	1–2 DS tab PO BID	Trimethoprim 4–6 mg/kg/dose, sulfamethoxazole 20–30 mg/kg/dose PO every 12 h	All	TMP-SMX is pregnancy category C/D and not rec ommended for women in the third trimester of pregnancy and for children <2 months of age.
	Doxycycline	100 mg PO BID	≤45kg: 2 mg/kg/dose PO every 12 h >45kg: adult dose	All	Tetracyclines are not recommended for children under 8 years of age and are pregnancy category D.
	Minocycline	200 mg × 1, then 100 mg PO BID	4 mg/kg PO × 1, then 2 mg/kg/dose PO every 12 h	All	
	Linezolid	600 mg PO BID	10 mg/kg/dose PO every 8 h, not to exceed 600 mg/dose	All	More expensive compared with other alternatives
Nonpurulent cellulitis (defined as cellulitis with no purulent drainage or exudate and no associated abscess)	β-lactam (eg, cephalexin and dicloxacillin)	500 mg PO QID	Please refer to Red Book	All	Empirical therapy for β-hemolytic streptococci is recommended (All). Empirical coverage for CA-MRSA is rec-ommended in patients who do not respond to β-lactam ther-apy and may be considered in those with systemic toxicity.
	Clindamycin	300–450 mg PO TID	10–13 mg/kg/dose PO every 6–8 h, not to exceed 40 mg/kg/day	All	Provide coverage for both β-hemolytic streptococci and CA-MRSA
	β-lactam (eg, amoxicillin) and/or TMP-SMX or a tetracycline	Amoxicillin: 500 PO mg TID See above for TMP-SMX and tetracycline dosing	Please refer to Red Book See above for TMP-SMX and tetracycline dosing	All	Provide coverage for both β-hemolytic streptococci and CA-MRSA
	Linezolid	600 mg PO BID	10 mg/kg/dose PO every 8 h, not to exceed 600 mg/dose	All	

Manifestation	Treatment	Adult dose	Pediatric dose	Class[a]	Comment
					Provide coverage for both B-hemolytic streptococci and CA-MRSA
Complicated SSTI	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	AI/AII	
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	AI/AII	For children ≥12 years of age, 600 mg PO/IV BID. Pregnancy category C
	Daptomycin	4 mg/kg/dose IV QD	Ongoing study	AI/ND	The doses under study in children are 5 mg/kg (ages 12–17 years), 7 mg/kg (ages 7–11 years), 9 mg/kg (ages 2–6 years) (Clinicaltrials.gov NCT 00711802). Pregnancy category B.
	Telavancin	10 mg/kg/dose IV QD	ND	AI/ND	Pregnancy category C
	Clindamycin	600 mg PO/IV TID	10–13 mg/kg/dose PO/IV every 6–8 h, not to exceed 40 mg/kg/day	AIII/AII	Pregnancy category B
Bacteremia and infective endocarditis					
Bacteremia	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	AII	The addition of gentamicin (AII) or rifampin (AI) to vancomycin is not routinely recommended.
	Daptomycin	6 mg/kg/dose IV QD	6–10 mg/kg/dose IV QD	AI/CIII	For adult patients, some experts recommend higher dosages of 8–10 mg/kg/dose IV QD (BIII). Pregnancy category B.
Infective endocarditis, native valve	Same as for bacteremia				
Infective endocarditis, prosthetic valve	Vancomycin and gentamicin and rifampin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BIII	
		1 mg/kg/dose IV every 8 h	1 mg/kg/dose IV every 8 h		
		300 mg PO/IV every 8 h	5 mg/kg/dose PO/IV every 8 h		
Persistent bacteremia	Please see text				
Pneumonia					
	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	AII	
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	AII	For children ≥12 years, 600 mg PO/IV BID. Pregnancy category C.
	Clindamycin	600 mg PO/IV TID	10–13 mg/kg/dose PO/IV every 6–8 h, not to exceed 40 mg/kg/day	BIII/AII	Pregnancy category B.

Table 3. (*Continued*)

Manifestation	Treatment	Adult dose	Pediatric dose	Class[a]	Comment
Bone and joint infections					
Osteomyelitis	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BII/AII	Surgical debridement and drainage of associated soft-tissue abscesses is the mainstay of therapy. (AII). Some experts recommend the addition of rifampin 600 mg QD or 300–450 mg BID to the chosen antibiotic (BIII). For children ≥12 years of age, linezolid 600 mg PO/IV BID should be used. A single-strength and DS tablet of TMP-SMX contains 80 mg and 160 mg of TMP, respectively. For an 80-kg adult, 2 DS tablets achieves a dose of 4 mg/kg.
	Daptomycin	6 mg/kg/day IV QD	6–10 mg/kg/day IV QD	BII/CIII	
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	BII/CIII	
	Clindamycin	600 mg PO/IV TID	10–13 mg/kg/dose PO/IV every 6–8 h, not to exceed 40 mg/kg/day	BIII/AII	
	TMP-SMX and rifampin	3.5–4.0 mg/kg/dose PO/IV every 8–12 h	ND	BII/ND	
		600 mg PO QD			
Septic arthritis	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BII/AII	Drainage or debridement of the joint space should always be performed (AII).
	Daptomycin	6 mg/kg/day IV QD	6–10 mg/kg/dose IV QD	BII/CIII	
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	BII/CIII	
	Clindamycin	600 mg PO/IV TID	10–13 mg/kg/dose PO/IV every 6–8 h, not to exceed 40 mg/kg/day	BIII/AII	
	TMP-SMX	3.5–4.0 mg/kg/dose PO/IV every 8–12 h	ND	BIII/ND	
Prosthetic joint, spinal implant infections	Please see text				
Central nervous system infections					

Table 3. (*Continued*)

Manifestation	Treatment	Adult dose	Pediatric dose	Class[a]	Comment
Meningitis	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BII	Some experts recommend the addition of rifampin 600 mg QD or 300–450 mg BID to vancomycin for adult patients (BIII). For children ≥12 years of age, linezolid 600 mg BID.
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	BII	
	TMP-SMX	5 mg/kg/dose PO/IV every 8-12 h	ND	CIII/ND	
Brain abscess, subdural empyema, spinal epidural abscess	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BII	Some experts recommend the addition of rifampin 600 mg QD or 300–450 mg BID to vancomycin for adult patients (BIII). For children ≥12 years of age, linezolid 600 mg BID.
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	BII	
	TMP-SMX	5 mg/kg/dose PO/IV every 8–12 h	ND	CIII/ND	
Septic thrombosis of cavernous or dural venous sinus	Vancomycin	15–20 mg/kg/dose IV every 8–12 h	15 mg/kg/dose IV every 6 h	BII	Some experts recommend the addition of rifampin 600 mg QD or 300–450 mg BID to vancomycin for adult patients (BIII). For children ≥12 years of age, linezolid 600 mg BID
	Linezolid	600 mg PO/IV BID	10 mg/kg/dose PO/IV every 8 h, not to exceed 600 mg/dose	BII	
	TMP-SMX	5 mg/kg/dose PO/IV every 8-12 h	ND	CIII/ND	

Guidelines for the Prevention of Infections Associated With Combat-Related Injuries: 2011 Update

Endorsed by the Infectious Diseases Society of America and the Surgical Infection Society

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TABLE 2. Recommendations to Prevent Infections Associated With Combat-Related Injuries Based on Level of Care

Level of Care*	Care Category	Recommendations
Role 1/Level I (prehospital)	Initial care in the field	-Bandage wounds with sterile dressings (avoid pressure over eye wounds) (**IB**)
		Stabilize fractures (**IB**)
		Transfer to surgical support as soon as feasible (**IB**)
	Postinjury antimicrobials	Provide single-dose point-of-injury antimicrobials (Table 3) if evacuation is delayed or expected to be delayed (**IC**)
Role 1/Level II / Role 2/Level II without surgical support (IIa)	Postinjury antimicrobials	Provide IV antimicrobials (Table 3) as soon as possible (within 3 h) (**IB**)
		Provide tetanus toxoid and immune globulin as appropriate
		Enhance gram-negative coverage with aminoglycoside or fluoroquinolone not recommended (**IB**)
		Addition of penicillin to prevent clostridial gangrene or streptococcal infection is not recommended (**IC**)
		Redose antimicrobials if large volume blood produce resuscitation (**IC**)
		Use only topical antimicrobials for burns (**IB**)
	Debridement and irrigation	Irrigate wounds to remove gross contamination with normal saline, sterile, or potable water, under low pressure (bulb syringe or equivalent) without additives (**IB**)
		Do not attempt to remove retained deep soft tissue fragments if criteria met (**IB**).† Provide cefazolin 2 g IV × 1 dose
Role 2/Level II with surgical support (IIb)/ Role 3/ Level III	Postinjury antimicrobials	Provide IV antimicrobials (Table 3) as soon as possible (within 3 h) (**IB**)
		Provide tetanus toxoid and immune globulin as appropriate
		Enhance gram-negative coverage with aminoglycoside or fluoroquinolone not recommended (**IB**)
		Addition of penicillin to prevent clostridial gangrene or streptococcal infection is not recommended (**IC**)
		Redose antimicrobials if large volume blood produce resuscitation (**IC**)
		Use only topical antimicrobials for burns (**IB**)
		Antimicrobial beads or pouches may be used (**IB**)
		Provide postsplenectomy immunizations if indicated (**IB**)
	Debridement and irrigation	Irrigate wounds to remove contamination with normal saline or sterile water, under low pressure (5–10 PSI, e.g., bulb syringe or gravity flow) without additives (use 3 L for each Type I, 6 L for each Type II, and 9 L for each Type III extremity fractures) (**IB**)
		Do not attempt to remove retained deep soft tissue fragments if criteria met (**IB**).† Provide cefazolin 2 g IV × 1 dose
		Do not obtain cultures unless infection is suspected (**IB**)
	Surgical wound management	Surgical evaluation as soon as possible (**IB**)
		Only dural and facial wounds should undergo primary closure (**IB**)
		NPWT can be used (**IB**)
		External fixation (temporary spanning) of femur/tibia fractures (**IB**)
		External fixation (temporary spanning) or splint immobilization of open humerus/forearm fractures (**IB**)
Role 4/Level IV	Postinjury antimicrobials	Complete course of postinjury antimicrobials (Table 3)
		Antimicrobial beads or pouches may be used (**IB**)
		Provide postsplenectomy immunizations if indicated (**IB**)
	Debridement and irrigation	Irrigate wounds to remove contamination with normal saline or sterile water, under low pressure (5–10 PSI, e.g., bulb syringe or gravity flow) without additives (use 3 L for each Type I, 6 L for each Type II, and 9 L for each Type III extremity fractures) (**IB**)
		Do not attempt to remove retained deep soft tissue fragments if criteria met (**IB**).† Provide cefazolin 2 g IV × 1 dose
		Do not obtain cultures unless infection is suspected (**IB**)
	Surgical wound management	Wounds should not be closed until 3–5 d postinjury (**IB**)
		Only dural and facial wounds should undergo primary closure (**IB**)
		NPWT can be used (**IB**)
		External fixation (temporary spanning) of femur/tibia fractures (**IB**)
		External fixation (temporary spanning) or splint immobilization of open humerus/forearm fractures (**IB**)

TABLE 3. Postinjury Antimicrobial Agent Selection and Duration Based Upon Injury Pattern*

Injury	Preferred Agent(s)	Alternate Agent(s)
Extremity wounds (includes skin, soft tissue, and bone)		
Skin, soft tissue, no open fractures	Cefazolin 2 g IV q6–8 h†‡	Clindamycin (300–450 mg PO TID or 600 mg IV q8 h)
Skin, soft tissue, with open fractures, exposed bone, or open joints	Cefazolin 2 g IV q6–8 h†‡§	Clindamycin 600 mg IV q8 h
Thoracic wounds		
Penetrating chest injury without esophageal disruption	Cefazolin 2 g IV q6–8 h†‡	Clindamycin (300–450 mg PO TID or 600 mg IV q8 h)
Penetrating chest injury with esophageal disruption	Cefazolin 2 g IV q 6–8 h†‡ plus metronidazole 500 mg IV q8–12 h	Ertapenem 1 g IV × 1 dose or moxifloxacin 400 mg IV × 1 dose
Abdominal wounds		
Penetrating abdominal injury with suspected/known hollow viscus injury and soilage; may apply to rectal/perineal injuries as well	Cefazolin 2 g IV q 6–8 h†‡ plus metronidazole 500 mg IV q8–12 h	Ertapenem 1 g IV × 1 dose or moxifloxacin 400 mg IV × 1 dose
Maxillofacial and neck wounds		
Open maxillofacial fractures, or maxillofacial fractures with foreign body or fixation device	Cefazolin 2 g IV q6–8 h†‡	Clindamycin 600 mg IV q8 h
Central nervous system wounds		
Penetrating brain injury	Cefazolin 2 g IV q6–8 h.†‡ Consider adding metronidazole 500 mg IV q8–12 h if gross contamination with organic debris	Ceftriaxone 2 g IV q24 h. Consider adding metronidazole 500 mg IV q8–12 h if gros contamination with organic debris. For penicillin allergic patients, vancomycin 1 IV q12 h plus ciprofloxacin 400 mg IV q8–12 h
Penetrating spinal cord injury	Cefazolin 2 g IV q6–8 h.†‡ ADD metronidazole 500 mg IV q8–12 h if abdominal cavity is involved	As above. ADD metronidazole 500 mg IV q8–12 h if abdominal cavity is involved
Eye Wounds		
Eye injury, burn or abrasion	Topical: Erythromycin or Bacitracin ophthalmic ointment QID and PRN for symptomatic relief Systemic: No systemic treatment required	Fluoroquinolone 1 drop QID
Eye injury, penetrating	Levofloxacin 500 mg IV/PO once daily. Before primary repair, no topical agents should be used unless directed by ophthalmology	
Burns		
Superficial burns	Topical antimicrobials with twice daily dressing changes (include mafenide acetate‖ or silver sulfadiazine; may alternate between the two), silver-impregnated dressing changed q3–5 d, or Biobrane	Silver nitrate solution applied to dressings
Deep partial-thickness burns	Topical antimicrobials with twice daily dressing changes, or silver-impregnated dressing changed q3–5d, plus excision and grafting	Silver nitrate solution applied to dressings plus excision and grafting
Full-thickness burns	Topical antimicrobials with twice daily dressing changes plus excision and grafting	Silver nitrate solution applied to dressings plus excision and grafting

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Journal of Antimicrobial Chemotherapy

Guidelines for the diagnosis and antibiotic treatment of endocarditis in adults: a report of the Working Party of the British Society for Antimicrobial Chemotherapy

F. Kate Gould[1]*, David W. Denning[2], Tom S. J. Elliott[3], Juliet Foweraker[4], John D. Perry[1], Bernard D. Prendergast[5], Jonathan A. T. Sandoe[6], Michael J. Spry[1] and Richard W. Watkin[7]

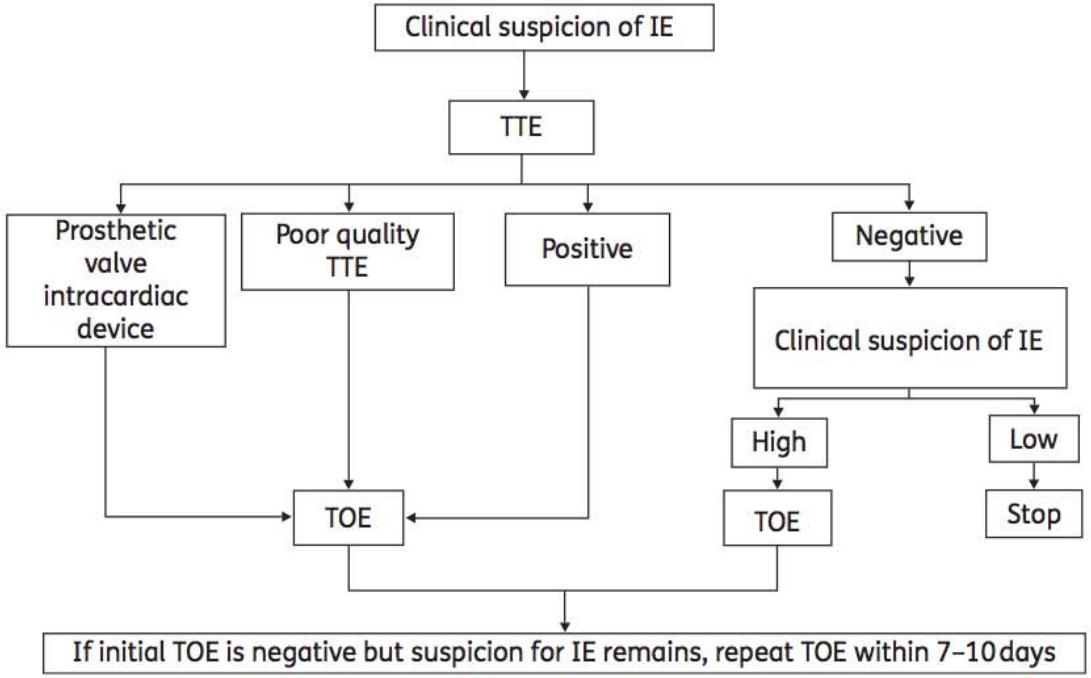

Figure 3. Indications for echocardiography in suspected infective endocarditis. IE, infective endocarditis; TTE, transthoracic echocardiography; TOE, transoesophageal echocardiography. TOE is not mandatory in isolated right-sided native valve IE with good quality TTE examination and unequivocal echocardiographic findings.

Table 2. Empirical treatment regimens for endocarditis (pending blood culture results)

Antimicrobial	Dose/route	Comment
1. NVE—indolent presentation		
Amoxicillin[a] AND (optional)	2 g q4h iv	If patient is stable, ideally await blood cultures. Better activity against enterococci and many HACEK microorganisms compared with benzylpenicillin. Use Regimen 2 if genuine penicillin allergy.
gentamicin[a]	1 mg/kg ABW	The role of gentamicin is controversial before culture results are available.
2. NVE, severe sepsis (no risk factors for Enterobacteriaceae, *Pseudomonas*)		
Vancomycin[a] AND	dosed according to local guidelines	In severe sepsis, staphylococci (including methicillin-resistant staphylococci) need to be covered. If allergic to vancomycin, replace with daptomycin 6 mg/kg q12h iv.
gentamicin[a]	1 mg/kg IBW q12h iv	If there are concerns about nephrotoxicity/acute kidney injury, use ciprofloxacin in place of gentamicin[a].
3. NVE, severe sepsis AND risk factors for multiresistant Enterobacteriaceae, *Pseudomonas*		
Vancomycin[a] AND	dosed according to local guidelines, iv	Will provide cover against staphylococci (including methicillin-resistant staphylococci), streptococci, enterococci, HACEK, Enterobacteriaceae and *P. aeruginosa*.
meropenem[a]	2 g q8h iv	
4. PVE pending blood cultures or with negative blood cultures		
Vancomycin[a] AND	1 g q12h iv	
gentamicin[a] AND	1 mg/kg q12h iv	Use lower dose of rifampicin in severe renal impairment.
rifampicin[a]	300–600 mg q12h po/iv	

NVE, native valve endocarditis; PVE, prosthetic valve endocarditis; ABW, actual body weight; IBW, ideal body weight; iv, intravenous; po, orally; q4h, every 4 h; q8h, every 8 h; q12h, every 12 h.
[a]Doses require adjustment according to renal function.

Table 3. Summary of treatment recommendations for staphylococcal endocarditis

Agent	Dose/route	Duration (weeks)	Comment
NVE, methicillin-susceptible *Staphylococcus* spp.			
Flucloxacillin	2 g every 4–6 h iv	4	Use q4h regimen if weight >85 kg.
NVE, methicillin-resistant, vancomycin-susceptible (MIC ≤2 mg/L) rifampicin-susceptible *Staphylococcus* or penicillin allergy			
Vancomycin AND	1 g iv q12h	4	or dose according to local guidelines. Modify dose according to renal function and maintain pre-dose level 15–20 mg/L.
Rifampicin	300–600 mg q12h po	4	Use lower dose of rifampicin if creatinine clearance <30 mL/min.
NVE, methicillin-resistant, vancomycin-resistant (MIC >2 mg/L), daptomycin-susceptible (MIC ≤1 mg/L) *Staphylococcus* spp. or patient unable to tolerate vancomycin			
Daptomycin AND	6 mg/kg q24h iv	4	Monitor creatine phosphokinase weekly. Adjust dose according to renal function.
Rifampicin OR	300–600 mg q12h po	4	Use lower dose of rifampicin if creatinine clearance <30 mL/min.
Gentamicin	1 mg/kg iv, q12h	4	
PVE, methicillin, rifampicin-susceptible *Staphylococcus* spp.			
Flucloxacillin AND	2 g every 4–6 h iv	6	Use q4h regimen if weight >85 kg.
Rifampicin AND	300–600 mg q12h po	6	Use lower dose of rifampicin if creatinine clearance <30 mL/min.
Gentamicin	1 mg/kg iv, q12h	6	
PVE, methicillin-resistant, vancomycin-susceptible (MIC ≤2 mg/L), *Staphylococcus* spp. or penicillin allergy			
Vancomycin AND	1 g iv q12h	6	or dose according to local guidelines. Modify dose according to renal function and maintain pre-dose level 15–20 mg/L.
Rifampicin AND	300–600 mg q12h po	6	Use lower dose of rifampicin if creatinine clearance <30 mL/min.
Gentamicin	1 mg/kg q12h iv	≥2	Continue gentamicin for the full course if there are no signs or symptoms of toxicity.
PVE, methicillin-resistant, vancomycin-resistant (MIC >2 mg/L), daptomycin-susceptible (MIC ≤1 mg/L) *Staphylococcus* spp. or patient unable to tolerate vancomycin			
Daptomycin AND	6 mg/kg q24h iv	6	Increase daptomycin dosing interval to 48 hourly if creatinine clearance <30 mL/min.
Rifampicin AND	300–600 mg q12h po	6	Use lower dose of rifampicin if creatinine clearance <30 mL/min.
Gentamicin	1 mg/kg q12h iv	≥2	Continue gentamicin for the full course if there are no signs or symptoms of toxicity.

NVE, native valve endocarditis; PVE, prosthetic valve endocarditis; iv, intravenously; po, orally; q12h, every 12 h; q24h, every 24 h.

Table 5. Summary of treatment recommendations for enterococcal endocarditis

Regimen	Antimicrobial	Dose and route	Duration (weeks)	Comment
1.	amoxicillin OR	2 g q4h iv	4–6	for amoxicillin-susceptible (MIC ≤4 mg/L), penicillin MIC ≤4 mg/L AND gentamicin-susceptible (MIC ≤128 mg/L) isolates
	penicillin AND	2.4 g q4h iv	4–6	duration 6 weeks for PVE
	gentamicin[a]	1 mg/kg q12h iv	4–6 (see Recommendation 9.3)	
2.	vancomycin[a] AND	1 g q12h iv or dosed according to local guidelines	4–6	for penicillin-allergic patient or amoxicillin- or penicillin -resistant isolate; ensure vancomycin MIC ≤4 mg/L
	gentamicin[a]	1 mg/kg IBW q12h iv	4–6	duration 6 weeks for PVE
3.	teicoplanin[a] AND	10 mg/kg q24h iv	4–6	alternative to Regimen 2, see comments for Regimen 2; ensure teicoplanin MIC ≤2 mg/L
	gentamicin[a]	1 mg/kg q12h iv	4–6	
4.	amoxicillin[a,b]	2 g q4h iv	≥6	for amoxicillin-susceptible (MIC ≤4 mg/L) AND high-level gentamicin resistant (MIC >128 mg/L) isolates

PVE, prosthetic valve endocarditis; IBW, ideal body weight; iv, intravenously; q4h, every 4 h; q12h, every 12 h; q24h, every 24 h.
[a]Amend dose according to renal function.
[b]Streptomycin 7.5 mg/kg every 12 h intramuscularly can be added if isolate is susceptible.

Impacto de las guías clínicas

ORIGINAL INVESTIGATION

Analysis of Overall Level of Evidence Behind Infectious Diseases Society of America Practice Guidelines

Dong Heun Lee, MD; Ole Vielemeyer, MD

Arch Intern Med. 2011;171(1):18-22

Table. Distribution of Individual Recommendations From Current Infectious Diseases Society of America Guidelines According to Strength of Recommendation and Quality of Evidence[a]

Strength of Recommendation[b]	Quality of Evidence			
	Level I	Level II	Level III	Total
Level A	414 (23)	715 (40)	667 (37)	**1796** (100)
Level B	143 (8)	544 (30)	1132 (62)	**1819** (100)
Level C	24 (4)	48 (8)	531 (88)	**603** (100)
Total	**581** (14)	**1307** (31)	**2330** (55)	**4218** (100)

Implementation of guidelines for management of possible multidrug-resistant pneumonia in intensive care: an observational, multicentre cohort study

*Daniel H Kett, Ennie Cano, Andrew A Quartin, Julie E Mangino, Marcus J Zervos, Paula Peyrani, Cynthia M Cely, Kimbal D Ford, Ernesto G Scerpella, Julio A Ramirez, and the Improving Medicine through Pathway Assessment of Critical Therapy of Hospital-Acquired Pneumonia (IMPACT-HAP) Investigators**

Published Online
January 20, 2011
DOI:10.1016/S1473-3099(10)70314-5

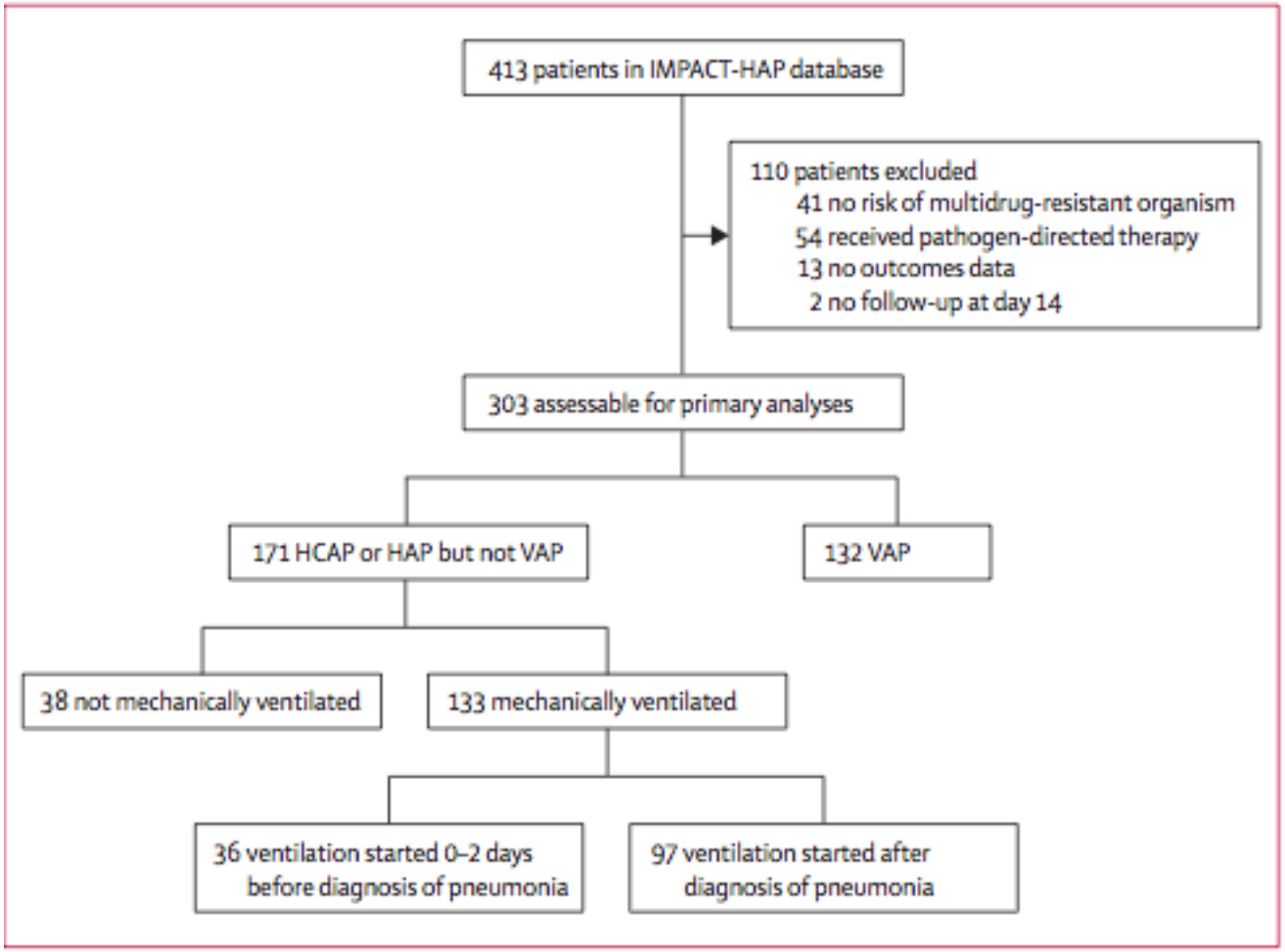

Figure 1: **Treatment characteristics of the study population**
IMPACT=Improving Medicine through Pathway Assessment of Critical Therapy. HCAP=health-care-associated pneumonia. HAP=hospital-acquired pneumonia. VAP=ventilator-associated pneumonia.

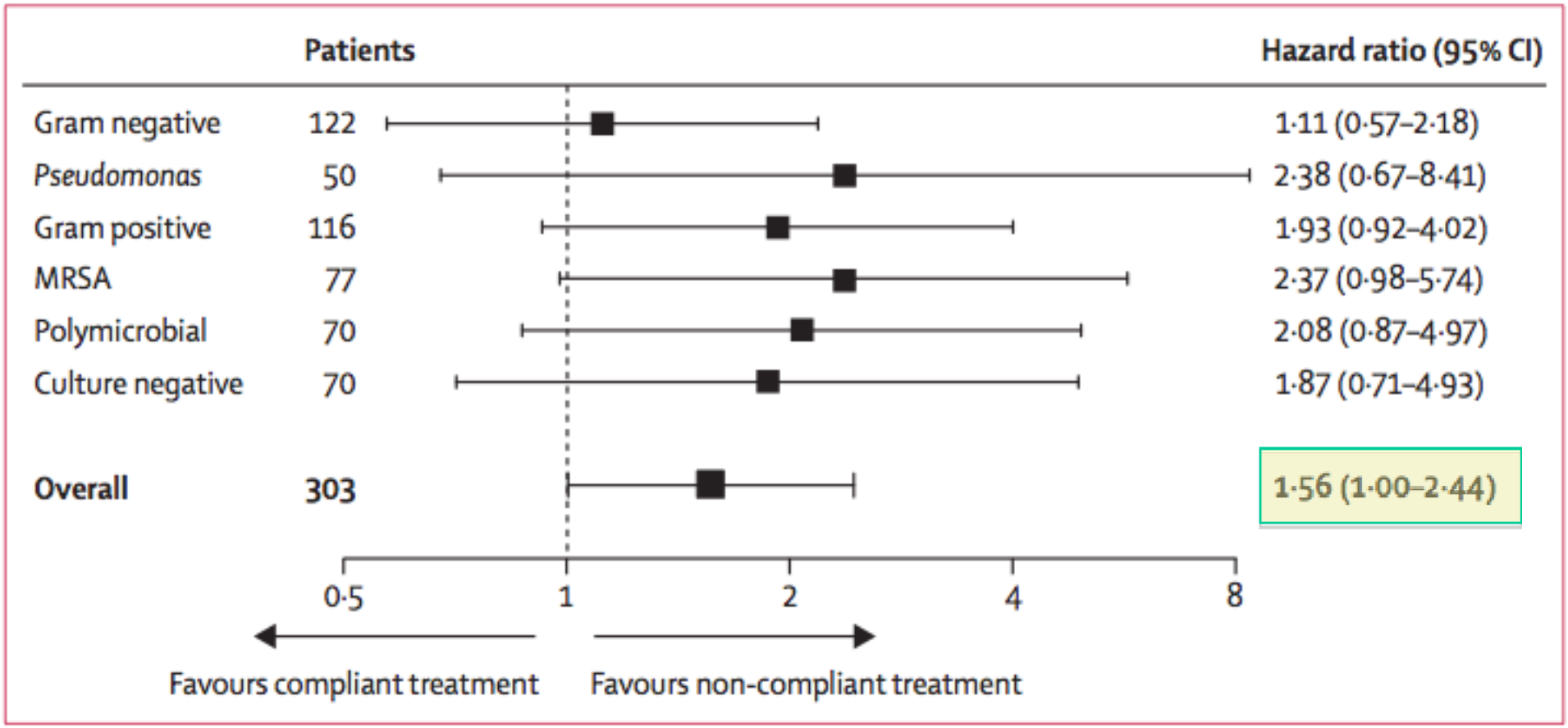

***Figure 3*: Guideline-compliant empirical treatment outcomes for 28-day mortality, grouped by pathogen and adjusted for treatment-independent risk**

MRSA=meticillin-resistant *Staphlococcus aureus*.

Política antibiótica

MAJOR ARTICLE

Impact of a Multipronged Education Strategy on Antibiotic Prescribing in Quebec, Canada

Karl Weiss,[1] Régis Blais,[2] Anne Fortin,[3] Sonia Lantin,[3] and Michel Gaudet[3]

Clinical Infectious Diseases 2011;53(5):433–439

Quebec frente a otras provincias

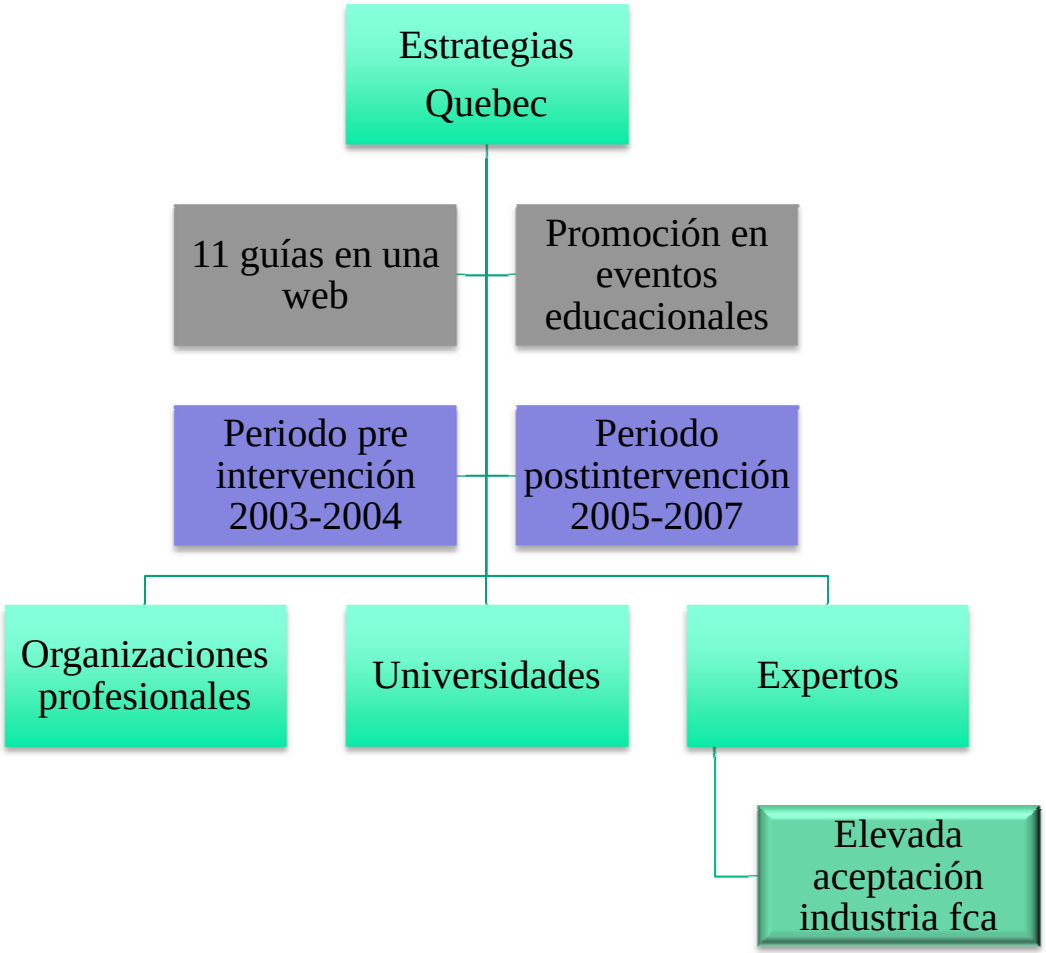

Table 1. Outpatient Antibiotic Prescriptions per 1000 Population in Quebec (QC) and the Other Canadian Provinces (CAN) From 2003 to 2007

	Outpatient antibiotic prescriptions/1000 population									
	2003		2004		2005		2006		2007	
Class of antibiotics	QC	CAN[a]	QC	CAN	QC	CAN	QC	CAN	QC	CAN
Cephalosporins	70	92	67	90	61	95	62	94	58	92
Macrolides	134	144	127	135	123	148	122	141	110	137
Penicillins	155	229	143	213	140	229	141	226	141	224
Fluoroquinolones	101	79	101	83	99	88	99	89	101	91
Others	66	99	63	97	57	98	59	102	61	108
Total	526	643	501	618	480	658	483	652	471	652

NOTE. [a] Canadian provinces other than Quebec.

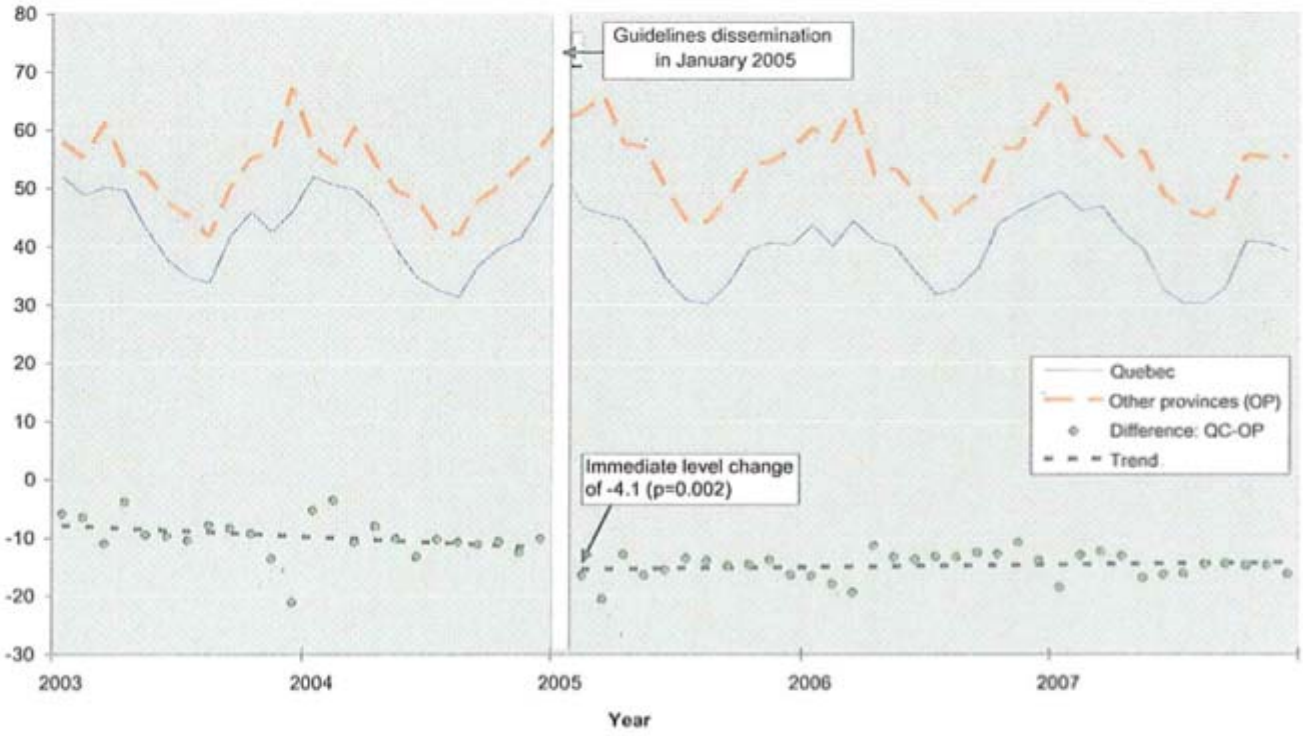

Figure 1. Monthly prescribing rates (no. of prescriptions/1000 inhabitants) for all antibiotics in Quebec (QC) and in the other Canadian provinces.

Table 2. Absolute Change in Antibiotic Use and Costs Between Quebec and the Other Canadian Provinces Immediately After Dissemination of Guidelines in January 2005

	Absolute change immediately after dissemination			
Class of antibiotics	Prescriptions/1000 inhabitants (95% CI)	*P*	Prescription cost, CAD/1000 inhabitants(95% CI)	*P*
Cephalosporins	−1.0 (−1.5 to −0.6)[a]	<.001	−44.3 (−62.6 to −25.9)[a]	<.001
Macrolides	−2.1 (−2.7 to −1.6)[b]	<.001	−53.4 (−125.0 to 18.2)[c]	.142
Penicillins	−1.3 (−1.8 to −0.7)[a]	<.001	−20.7 (−35.0 to −6.5)[c]	.006
Quinolones	−0.9 (−1.2 to −0.7)[a]	<.001	−53.5 (−76.6 to −30.5)[a]	<.001
Other antibiotics	−0.4 (−0.5 to −0.3)[d]	<.001	−13.7 (−22.3 to −5.0)[c]	.003
All antibiotics	−4.1 (−6.6 to −1.6)[c]	.002	−134.5 (−270.5 to 1.6)[c]	.054

Ahorro total de 134,5$/1000 habitantes en Quebec (p=0,054).

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doi:10.1093/jac/dkr539

Journal of Antimicrobial Chemotherapy

Pan-European monitoring of susceptibility to human-use antimicrobial agents in enteric bacteria isolated from healthy food-producing animals

Anno de Jong[1,2]*, Valérie Thomas[1,3], Shabbir Simjee[1,4], Kevin Godinho[1,5], Brigitte Schiessl[1,6], Ulrich Klein[1,6], Pascal Butty[1,7], Michel Vallé[1,8], Hervé Marion[9] and Thomas R. Shryock[10]

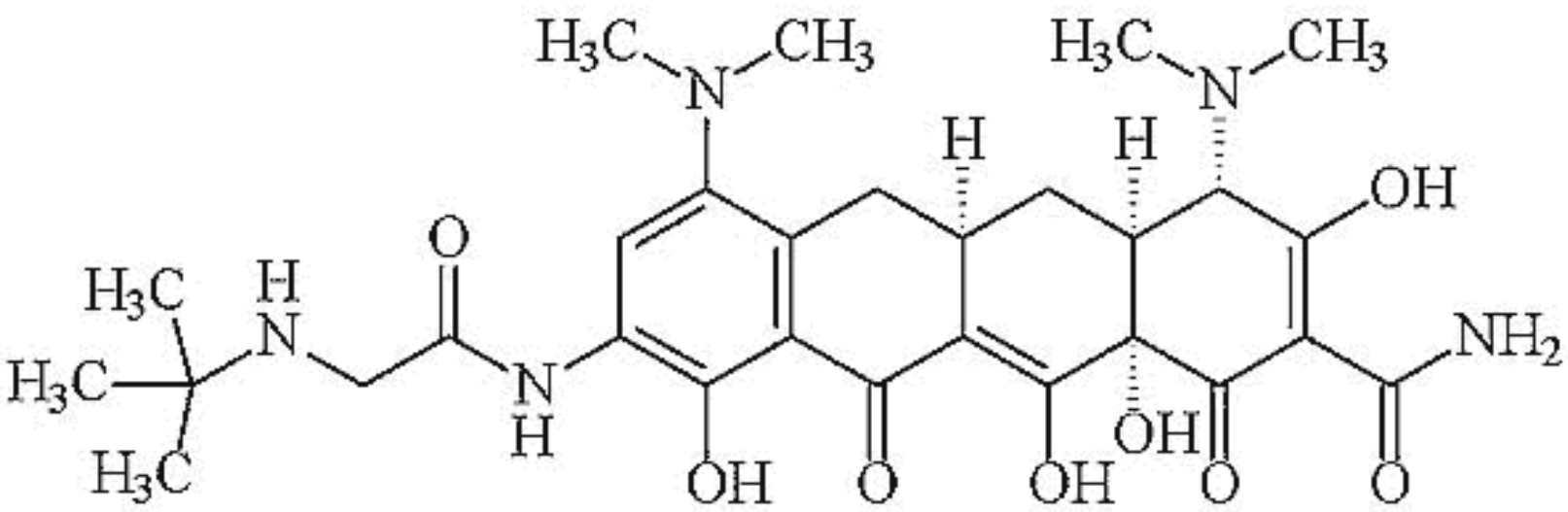
E coli R en España

	Dinamarca	Francia	Alemania	Holanda	España
ampicilina	24	24,8	33,7	25,7	66
cefepime	0	0	0	0	0
cefotaxima	1,3	0	0	0	0
ciprofloxacina	0	0	1	0	0
colistina	0	0	0	0	1
gentamicina	0	0	0	0	5
tetraciclina	36	83,2	64,4	67,9	94
cotrimoxazol	14,7	43,6	33,7	42,1	66

E coli R en España

	Francia	Alemania	Holanda	España	Reino Unido
ampicilina	32,4	74,6	50	52	53,4
cefepime	0	0	0	0	0
cefotaxima	0,2	0	2,6	6	0
ciprofloxacina	1	1,7	1,3	22	1
colistina	0	0	0	0	1
gentamicina	5,9	3,4	3,2	8,0	1,0
tetraciclina	72,5	61,0	63,6	82,0	65,0
cotrimoxazol	23,5	57,6	46,8	34,0	57,3

Tigeciclina



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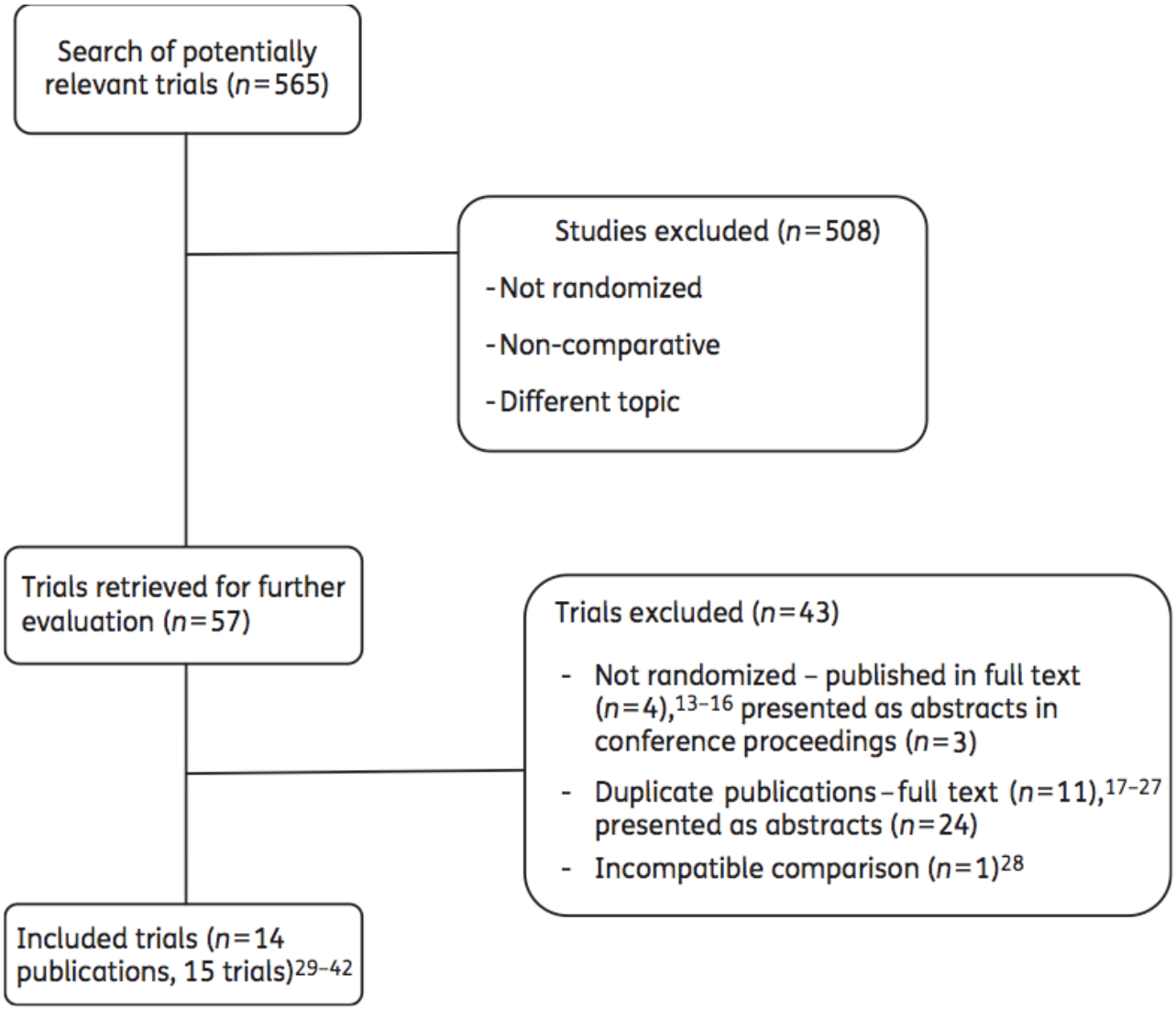
Journal of Antimicrobial Chemotherapy

Efficacy and safety of tigecycline: a systematic review and meta-analysis

Dafna Yahav[1,2]*, Adi Lador[1,2], Mical Paul[2,3] and Leonard Leibovici[1,2]


Search of potentially relevant trials (n=565)
Studies excluded (n=508)
- Not randomized
- Non-comparative
- Different topic
Trials retrieved for further evaluation (n=57)
Trials excluded (n=43)
- Not randomized – published in full text (n=4),[13–16] presented as abstracts in conference proceedings (n=3)
- Duplicate publications – full text (n=11),[17–27] presented as abstracts (n=24)
- Incompatible comparison (n=1)[28]
Included trials (n=14 publications, 15 trials)[29–42]

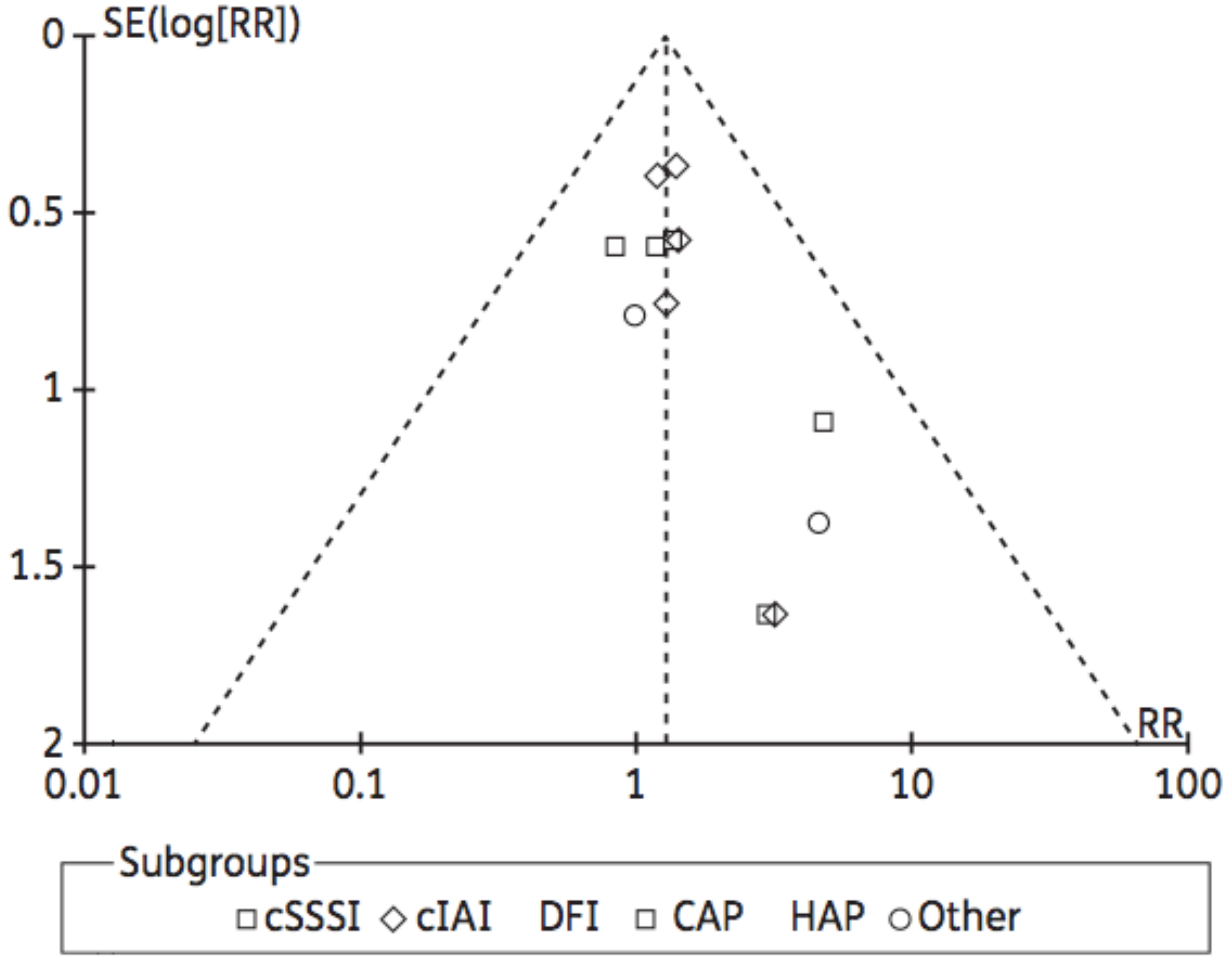
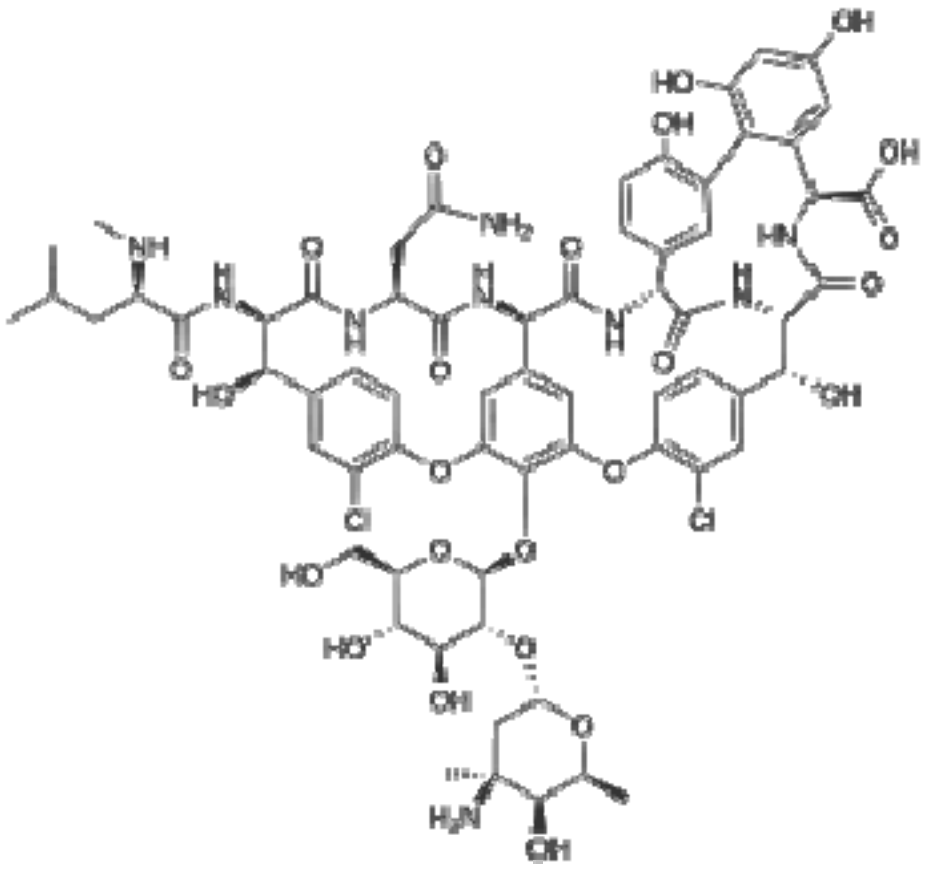


Figure 3. Funnel plot of the standard error of the log (RR) versus RRs for overall mortality, showing small-studies effect (Egger's regression intercept, 2-tailed $P=0.018$).

Vancomicina



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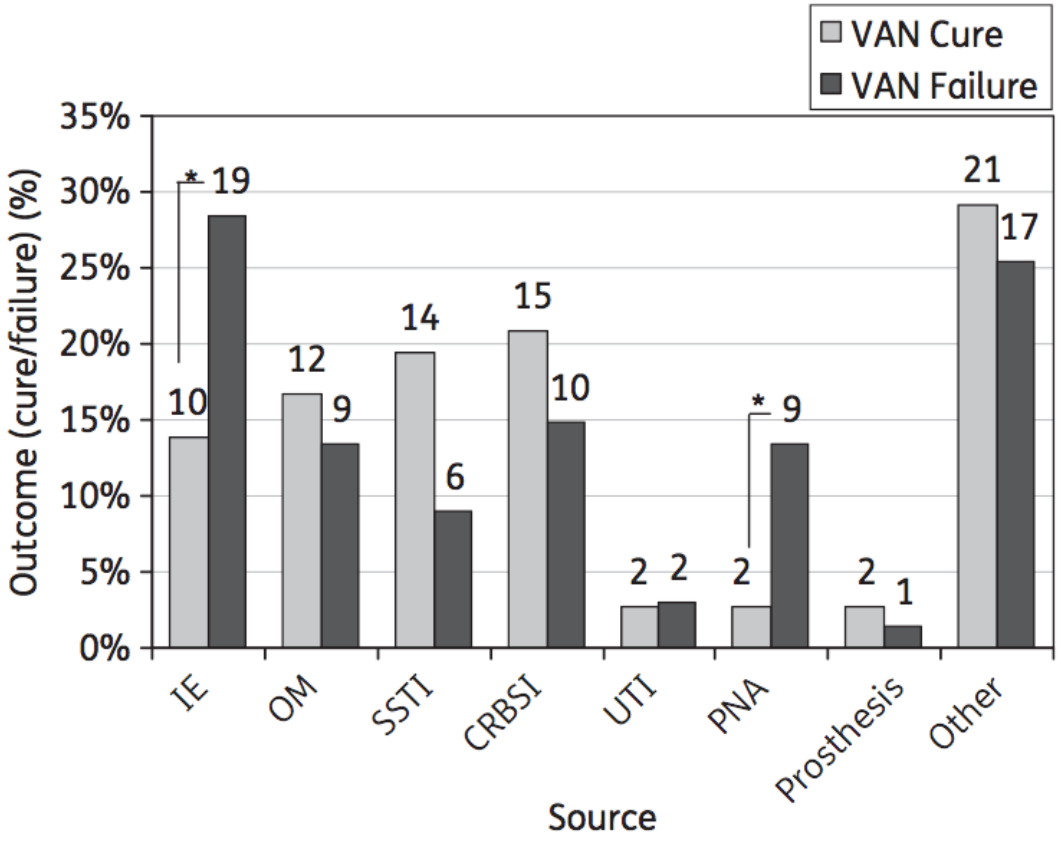
Journal of Antimicrobial Chemotherapy

Site of infection rather than vancomycin MIC predicts vancomycin treatment failure in methicillin-resistant *Staphylococcus aureus* bacteraemia

Carla J. Walraven[1]*, Michael S. North[1], Lisa Marr-Lyon[1], Paulina Deming[1], George Sakoulas[2] and Renée-Claude Mercier[1]


VAN Cure
VAN Failure
Outcome (cure/failure) (%)
35%
30%
25%
20%
15%
10%
5%
0%
* 19
10
12
9
14
6
15
10
2
2
* 9
2
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21
17
IE
OM
SSTI
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UTI
PNA
Prosthesis
Other
Source

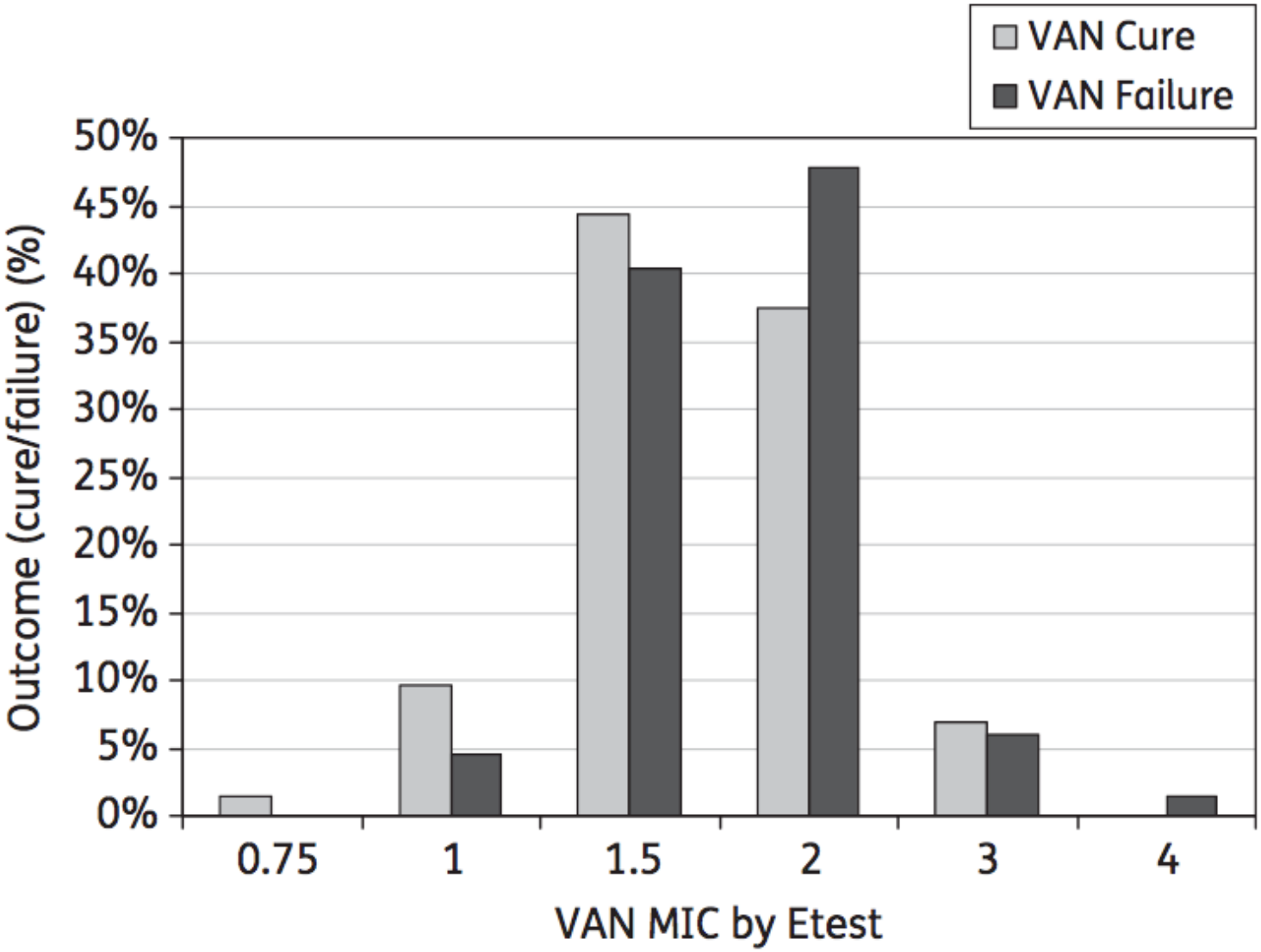


Figure 2. Clinical outcome by vancomycin MIC (mg/L). VAN, vancomycin.

Table 3. Multivariate analysis of factors associated with vancomycin failures

Predictor	Wald	*P* value	Odds ratio	95% confidence interval
Age	4.22	0.04	1.03	1.0–1.05
Gender	0.41	0.52	0.76	0.33–1.74
Race	2.94	0.57	—	—
Endocarditis	5.61	0.02	3.12	1.22–8.21
Pneumonia	5.18	0.02	7.25	1.31–39.9
Osteomyelitis	0.05	0.81	0.89	0.31–2.48
Vancomycin Etest	3.90	0.56	—	—

MAJOR ARTICLE

Daptomycin Versus Vancomycin for Bloodstream Infections Due to Methicillin-Resistant *Staphylococcus aureus* With a High Vancomycin Minimum Inhibitory Concentration: A Case-Control Study

Carol L. Moore,[1,2] Paola Osaki-Kiyan,[1] Nadia Z. Haque,[1,2] Mary Beth Perri,[1] Susan Donabedian,[1] and Marcus J. Zervos[1,3]

Table 2. Comparative Outcomes of Vancomycin- and Daptomycin-Treated Subjects With Susceptible Methicillin-Resistant *Staphylococcus aureus* Bloodstream Infection With a Vancomycin Minimum Inhibitory Concentration >1 μg/mL

Factor	Vancomycin, (n = 118)	Daptomycin, (n = 59)	*P*
Clinical failure[a]	37 (31)	10 (17)	.084
60-d mortality[b]	24 (20)	5 (8)	.046
Microbiologic failure[c]	11 (9)	6 (10)	.855
Recurrence of MRSA BSI[d]	6 (5)	2 (3)	.620
Clinical failure, by MIC[e]			
1.5 μg/mL	31 (30)	6 (24)	.530
2 μg/mL	6 (38)	4 (12)	.065
Clinical failure, by risk level of infection source[f]			
Low risk	7 (27)	2 (15)	.459
Intermediate risk	11 (29)	2 (11)	.166
High risk	19 (35)	6 (22)	.189

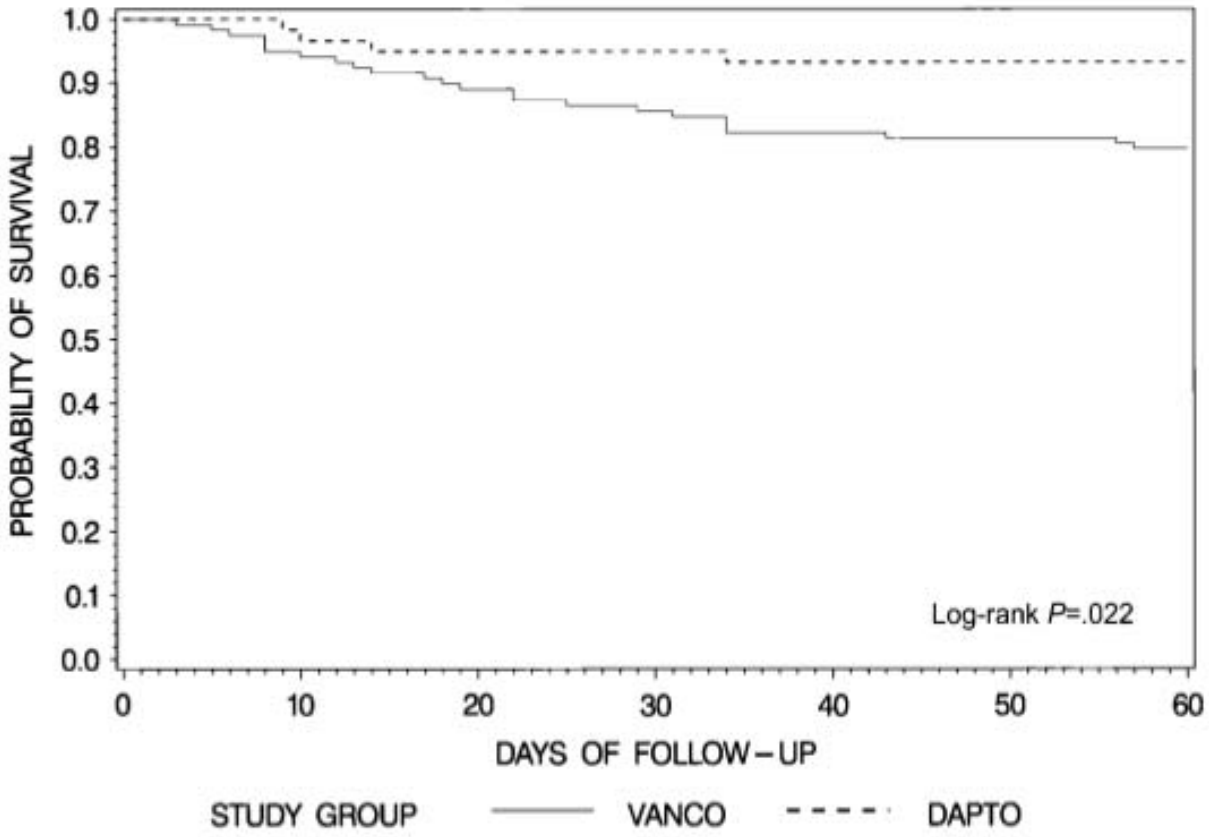
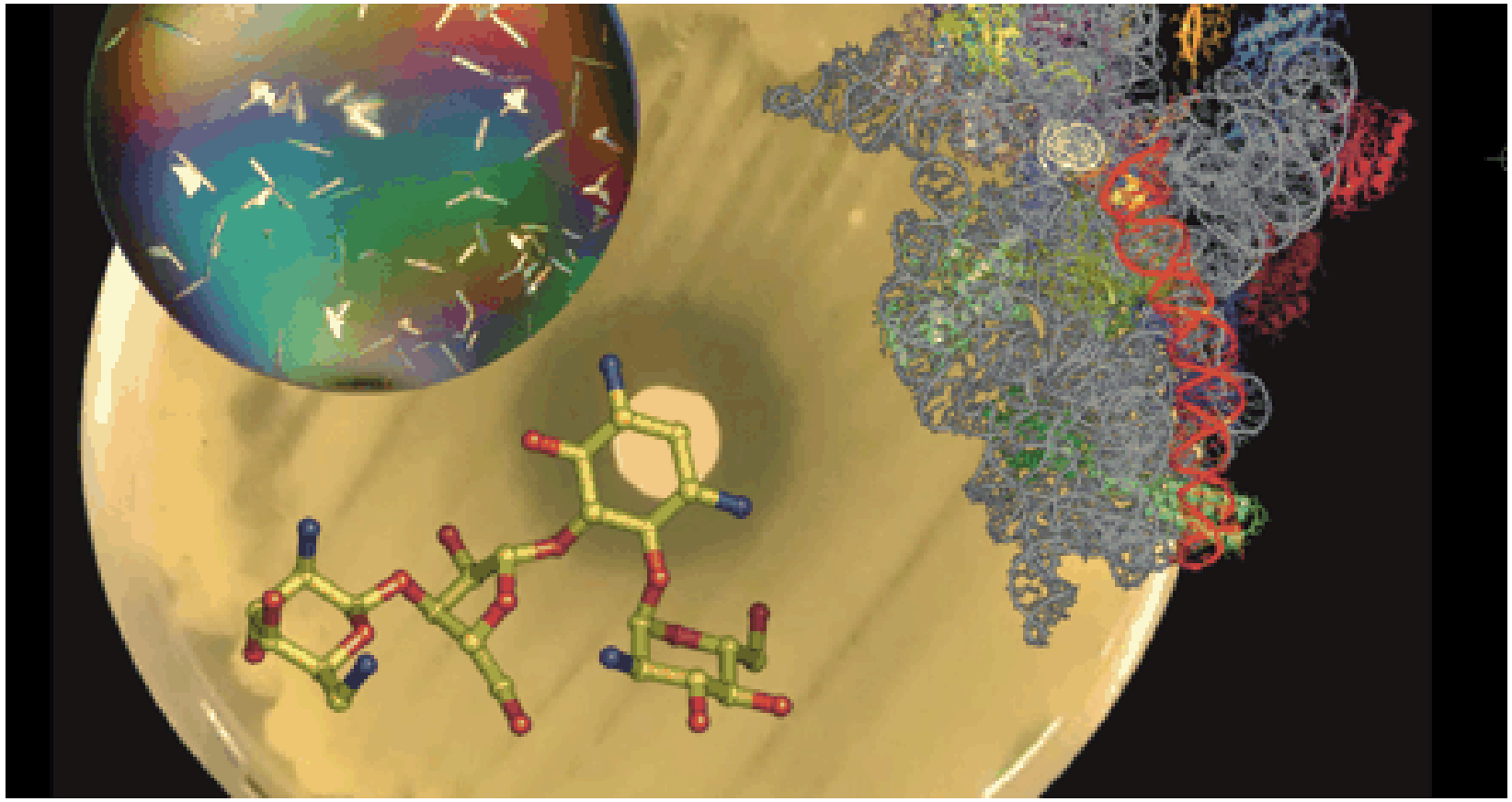


Figure 1. Kaplan-Meier estimates of the probability of 60-d mortality, shown here as the probability of survival at 60 d between vancomycin-treated subjects (vanco) and daptomycin-treated subjects (dapto) with methicillin-resistant *Staphylococcus aureus* bloodstream infection with a higher vancomycin minimum inhibitory concentration.

Table 3. Independent Predictors of Failure in Susceptible Methicillin-Resistant *Staphylococcus aureus* Bloodstream Infection With a Vancomycin Minimum Inhibitory Concentration >1 μg/mL

Factor	Unadjusted OR (95% CI)	*P*	Adjusted OR (95% CI)	*P*
Right-sided endocarditis	0.18 (0.04–0.87)	.033	0.08 (0.01–0.83)	.035
Acute renal failure	2.11 (0.91–4.91)	.082	3.91 (1.05–14.56)	.042
Vancomycin treatment group	1.85 (0.92–3.72)	.084	3.13 (1.00–9.76)	.049

Nuevos antibióticos



Clinical Infectious Diseases Advance Access published December 7, 2011

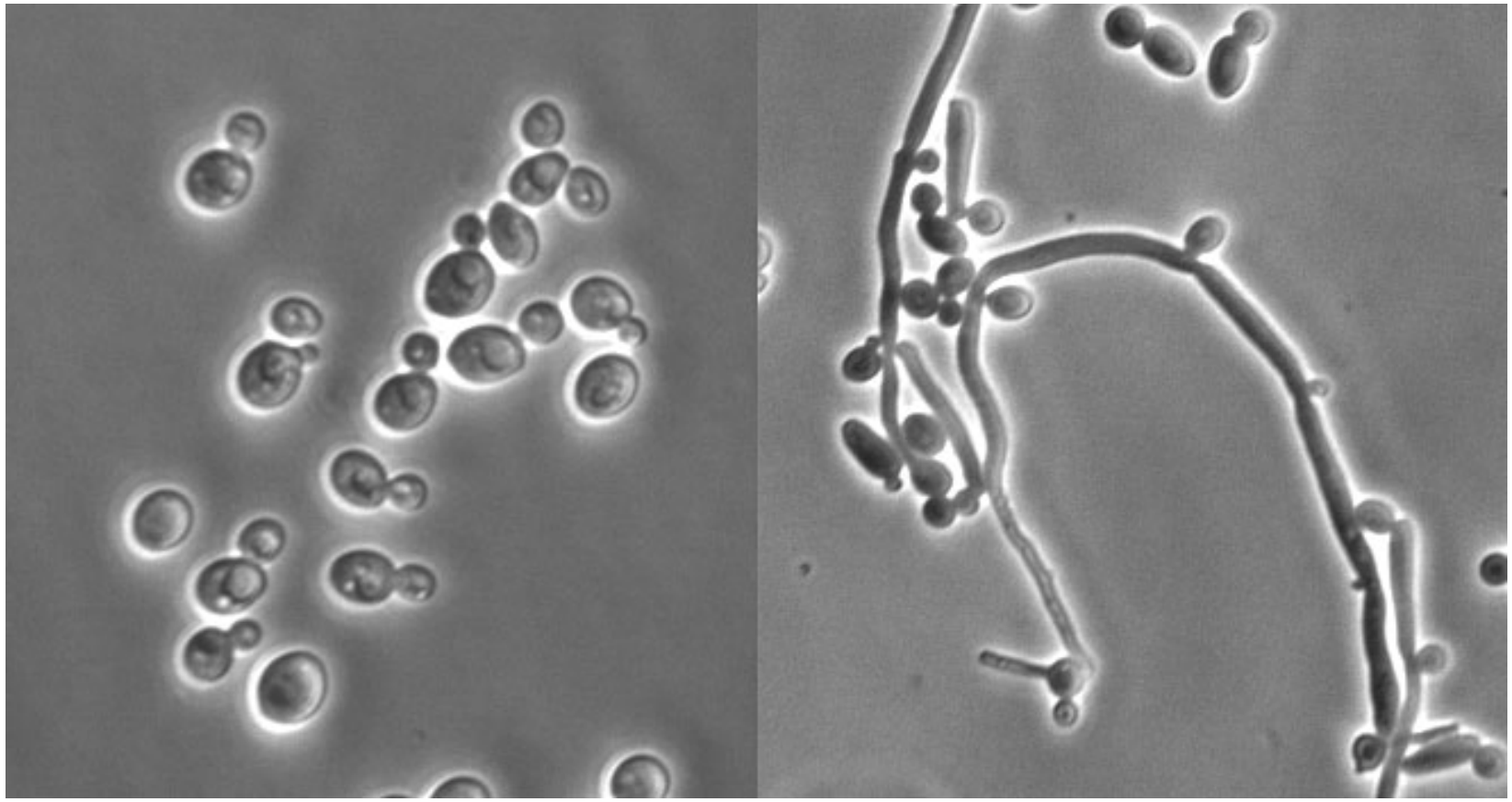
INVITED ARTICLE **REVIEW OF ANTI-INFECTIVE AGENTS**

Louis D. Saravolatz, Section Editor

Fidaxomicin: A Novel Macrocyclic Antibiotic Approved for Treatment of *Clostridium difficile* Infection

Anilrudh A. Venugopal[1,2] and Stuart Johnson[3,4]

Candidemia



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doi:10.1093/jac/dkr511

Journal of Antimicrobial Chemotherapy

Timing of susceptibility-based antifungal drug administration in patients with *Candida* bloodstream infection: correlation with outcomes

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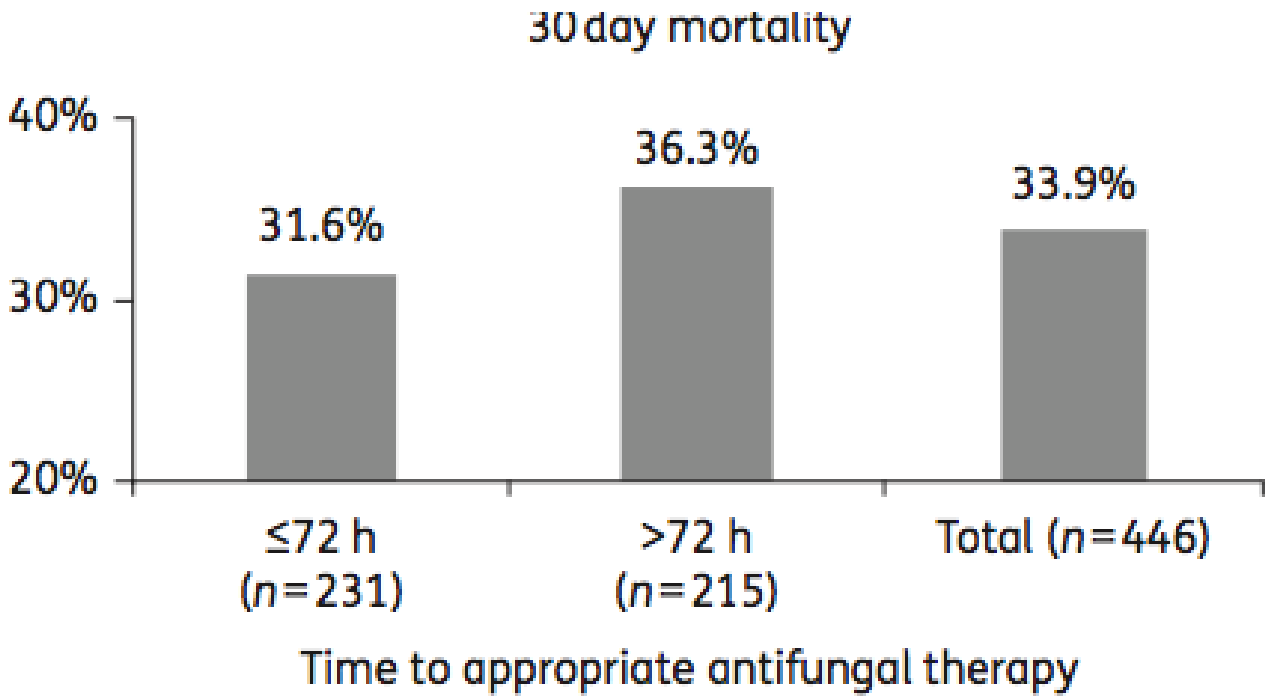

Figure 1. The 30 day mortality based on the time to initiation of appropriate antifungal therapy. $P=0.11$ between ≤72 and >72 h.

Table 4. Multivariable Cox regression: patient survival ($n=446$)

Characteristic	HR	95% CI	*P* value
APACHE II score	1.11	1.09–1.13	<0.001
Cirrhosis	2.15	1.48–3.13	<0.001
HIV infection	2.03	1.11–3.72	0.02
Age (in years)	1.01	1.00–1.02	0.06
Serum creatinine ≥2.0 mg/dL	0.84	0.58–1.20	0.34
Antifungal timing >72 h (reference category=≤72 h)	1.10	0.80–1.52	0.57

Journal of Antimicrobial Chemotherapy Advance Access published June 23, 2011

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doi:10.1093/jac/dkr261

Journal of Antimicrobial Chemotherapy

The urgent need for new antibacterial agents

Richard Wise* on behalf of the BSAC Working Party on The Urgent Need: Regenerating Antibacterial Drug Discovery and Development†

British Society for Antimicrobial Chemotherapy, Griffin House, 53 Regent Place, Birmingham B1 3NJ, UK

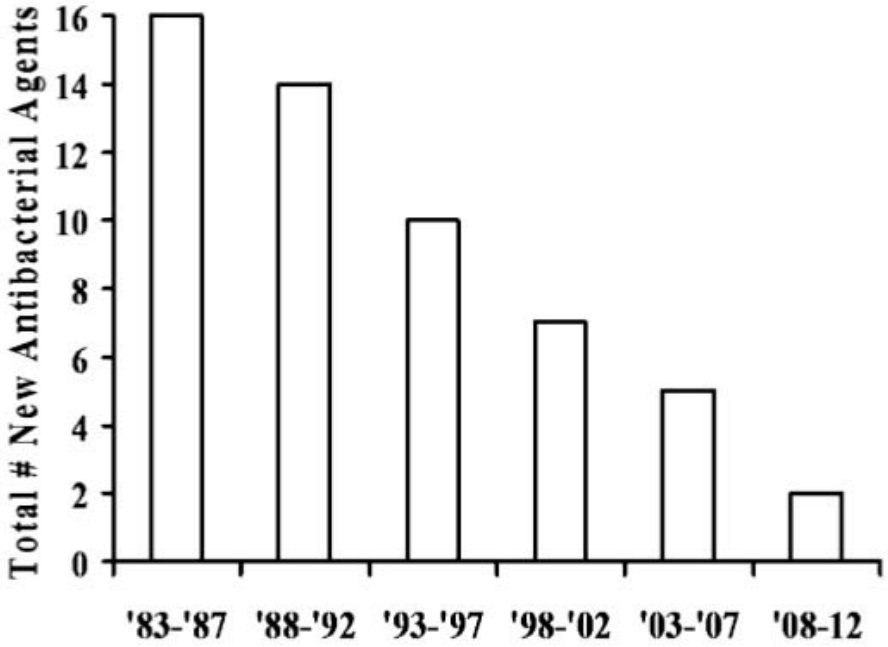

Figure 1. Number of New Molecular Entity (NME) Systemic Antibiotics Approved by the US FDA Per Five-year Period, Through 3/11.

IDSA. Clin Infect Dis 2011;52:S397-S428

Reducción mortalidad era antibiótica

Infección	Mortalidad Pre-atb (%)	Mortalidad (%)	Reducción mortalidad (%)
CAP	23	7	16
HAP	60	30	30
Endocarditis	100	25	75
Meningitis	80	< 20	60
SSTI	11	< 5	10

IDSA. Clin Infect Dis 2011;52:S397-S428

Journal of Antimicrobial Chemotherapy Advance Access published September 15, 2011

J Antimicrob Chemother
doi:10.1093/jac/dkr370

Journal of Antimicrobial Chemotherapy

Using antibiotics responsibly: right drug, right time, right dose, right duration

Matthew Dryden[1]*, Alan P. Johnson[2], Diane Ashiru-Oredope[2] and Mike Sharland[3]

ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Nov. 2011, p. 5412 Vol. 55, No. 11
0066-4804/11/$12.00 doi:10.1128/AAC.05564-11

New Antimicrobial Agents Approved by the U.S. Food and Drug Administration in 2010 and 2011 and New Indications for Previously Approved Agents[a]

Nuevos antibióticos aprobados por la FDA 2010 - 2011

Fecha aprobación	Principio activo	Indicación
23 feb 2010	Aztreonam	Fibrosis quística
24 marzo 2010	Rifaximina	Encefalopatía hepática
27 abril 2010	Lopinavir, ritonavir	VIH
18 mayo 2010	Gatifloxacino	Conjuntivitis
16 julio 2010	Clindamicina, tretinoina	Acné
18 octubre 2010	Entecavir	Hepatitis B
29 octubre 2010	Ceftarolina	SSTI, CAP
19 nov 2010	Moxifloxacino	Conjuntivitis
29 marzo 2011	Nevirapina	VIH
13 mayo 2011	Boceprevir	Hepatitis C
20 mayo 2011	Rilpivirina	VIH
23 mayo 2011	Telapravir	Hepatitis C
27 mayo 2011	Fidaxomicina	Diarrea *C difficile*

Bassetti M, et al. Expert Rev Anti Infect Ther 2(

Table 2. MIC_{90} of some new agents and comparators against Gram-negative rods in different studies.

Bacteria (number of isolates)	MIC_{90} (range), mg/l		Ref.
Novel β-lactam & β-lactamase inhibitors			
BLI-489	**Piperacillin + tazobactam**	**Piperacillin + BLI-489**	[65]
E. coli (52)	2 (0.5–128)	2 (0.25–64)	
E. coli ESBL-A† (31)	>128 (1 to >128)	16 (1–32)	
E. coli AmpC (17)	32 (2–64)	16 (1–16)	
E. cloacae (52)	>128 (0.5 to >128)	16 (0.5–16)	
K. pneumoniae (54)	16 (1 to >128)	8 (1–16)	
K. pneumoniae ESBL-A (36)	>128 (2 to >128)	2–128 (32)	
K. pneumoniae AmpC (30)	>128 (8 to >128)	>128 (4 to >128)	
Acinetobacter spp. (30)	32 (≤0.12 to >128)	16 (0.5–32)	
P. aeruginosa (55)	>128 (4 to >128)	64 (4 to >128)	
ME1071	**Meropenem**	**Meropenem + ME1071**	[80]
MBL-producing *P. aeruginosa* (174)	>64 (0.5 to >64)	>64 (0.25 to >64)	
Non MBL-producing *P. aeruginosa* (16)	64 (0.12–64)	64 (0.5–64)	
Tomopenem	**Meropenem**	**Tomopenem**	[55]
E. coli (25)	≤0.03 (≤0.03–0.25)	≤0.03 (≤0.03–0.12)	
K. pneumoniae (25)	≤0.03 (≤0.03–0.06)	0.06 (≤0.03–0.12)	
P. aeruginosa (100)	16 (0.06 to >32)	4 (0.06–32)	
Novel polymyxins			
CB-182,804	**Colistin**	**CB-182,804**	[86]
E. coli (80)	0.5	2	
K. pneumoniae (81)	2	4	
P. aeruginosa (100)	2	2	
Acinetobacter spp. (81)	4	4	
Protein synthesis inhibitors			
AN3365	**Imipenem**	**AN3365**	[90]
P. aeruginosa (101)	>64 (0.25 to >64)	8 (1–16)	
Acinetobacter spp. (25)	>64 (8 to >64)	16 (4–32)	

†Class A ESBL.
ESBL: Extended-spectrum β-lactamase; MBL: Metallo-β-lactamase.

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Table 5. Old and new β-lactamase inhibitors and specific activity against different classes of β-lactamases.

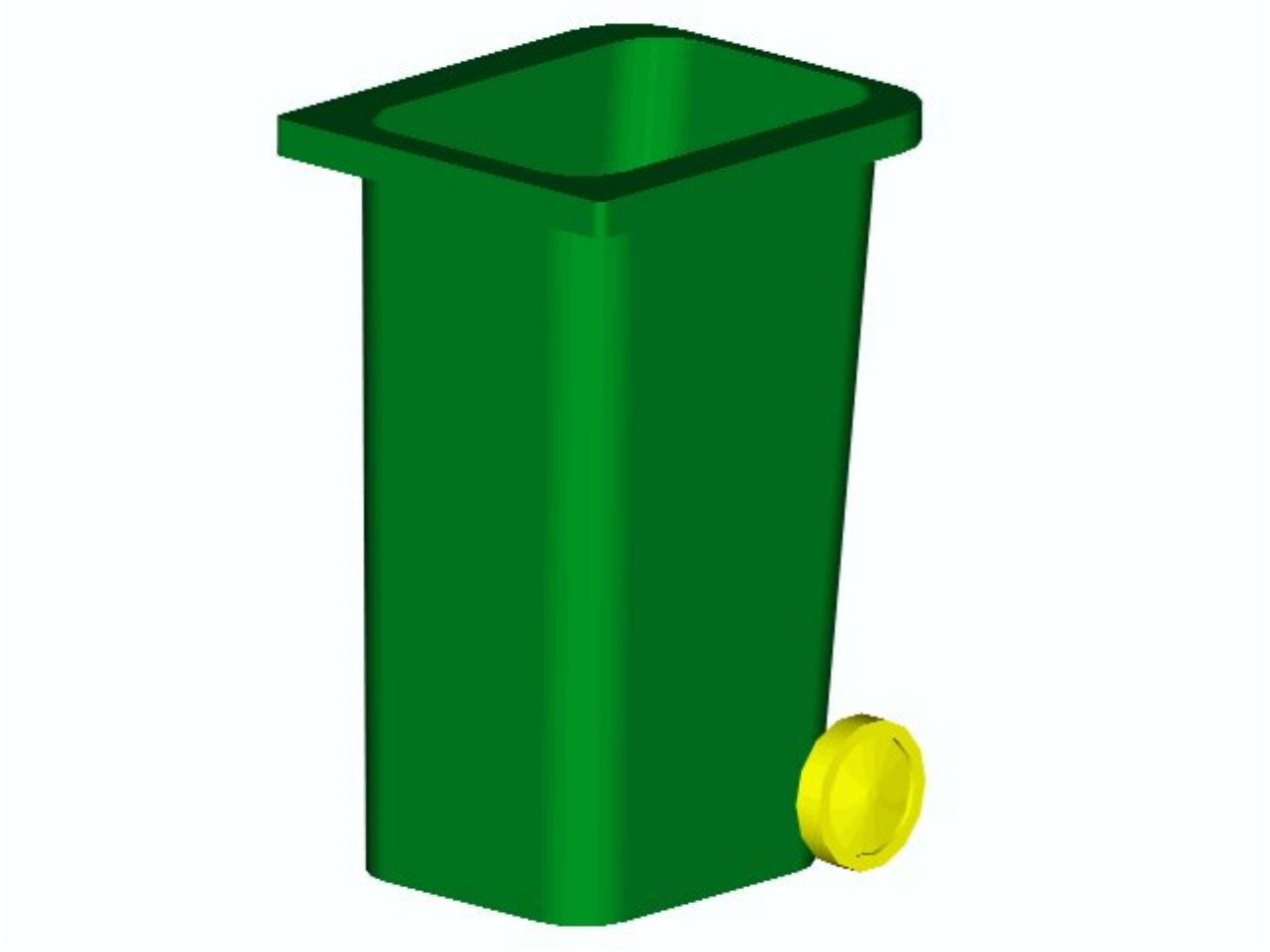
Inhibitor	Class				US FDA status
	A	*B*	*C*	*D*	
Inhibitors with β-lactam structure					
Clavulanic acid	+	-	+	+	Approved
Tazobactam	+	-	+	+	Approved
Sulbactam	+	-	+	+	Approved
BLI-489	+	?	+	+	Phase I[†]
BAL30376	?	+	+	?	Phase I[†]
LK-157	+	?	+	?	Preclinical
Oxapenems	+	?	+	+	Preclinical
Inhibitors without β-lactam structure					
NXL104	+	+	+	+	Phase I and II[†‡]
ME1071	?	+	?	?	Phase I (Japan)[†]
MK7655	+	?	+	?	Phase I[‡]

[†]Complete results not published.
[‡]In combination with ceftaroline and ceftazidime, respectively.
+: Active; -: Nonactive; ?: Unknown.

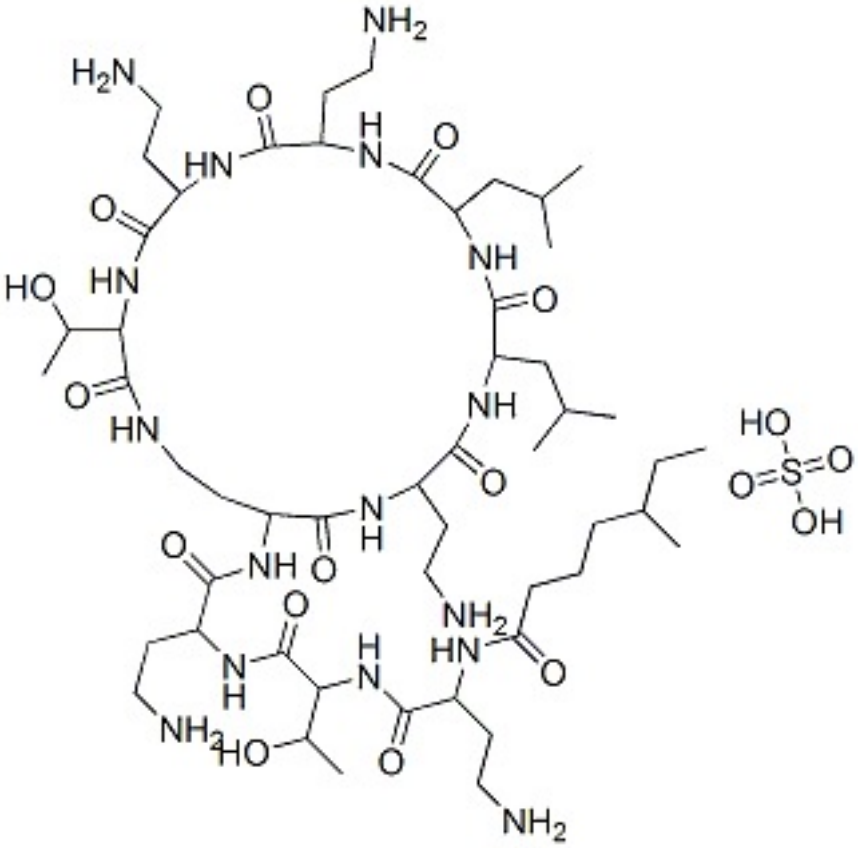
Table 6. US FDA status and antimicrobial activity of novel antimicrobials against multidrug-resistant Gram-negative strains.

Drug	US FDA status	Antimicrobial class	*In vitro* activity against MDR Gram-negative bacteria			
			Escherichia coli	*Klebsiella pneumoniae*	*Pseudomonas aeruginosa*	*Acinetobacter baumannii*
KB001	Phase II	Antibody fragment	-	-	+	-
CB-182,804	Phase I	Polymyxins	+	+	+	+
AN3665	Phase I	Protein synthesis inhibitors	+	+	+	+
TP-434	Phase I	Tetracyclines	+	+	+	+
MBX agents	Preclinical	Bis-indoles	?	+	?	?
CHIR-090	Preclinical	LpxC inhibitors	+	?	+	?

+: Active; -: Nonactive; ?: Unknown; MDR: Multidrug resistant.
Data from [101].



colistina


NH2
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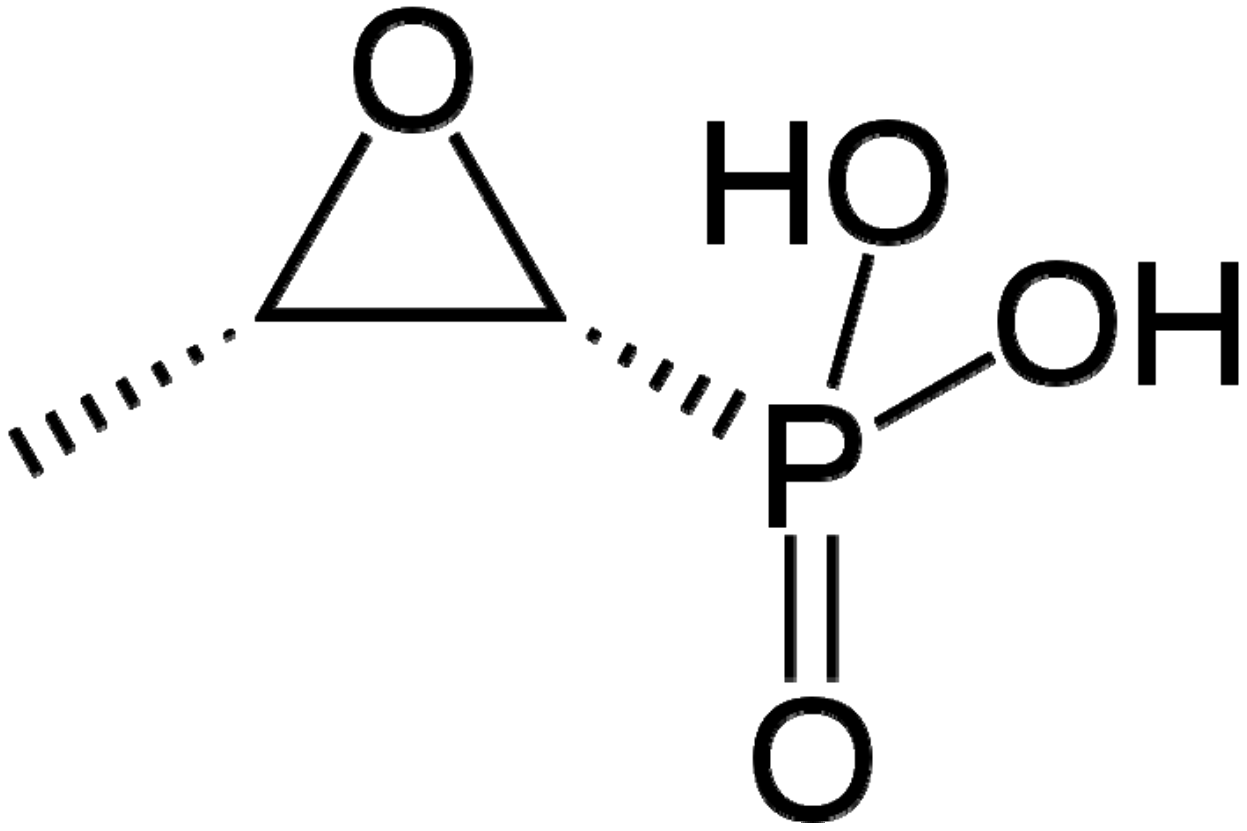
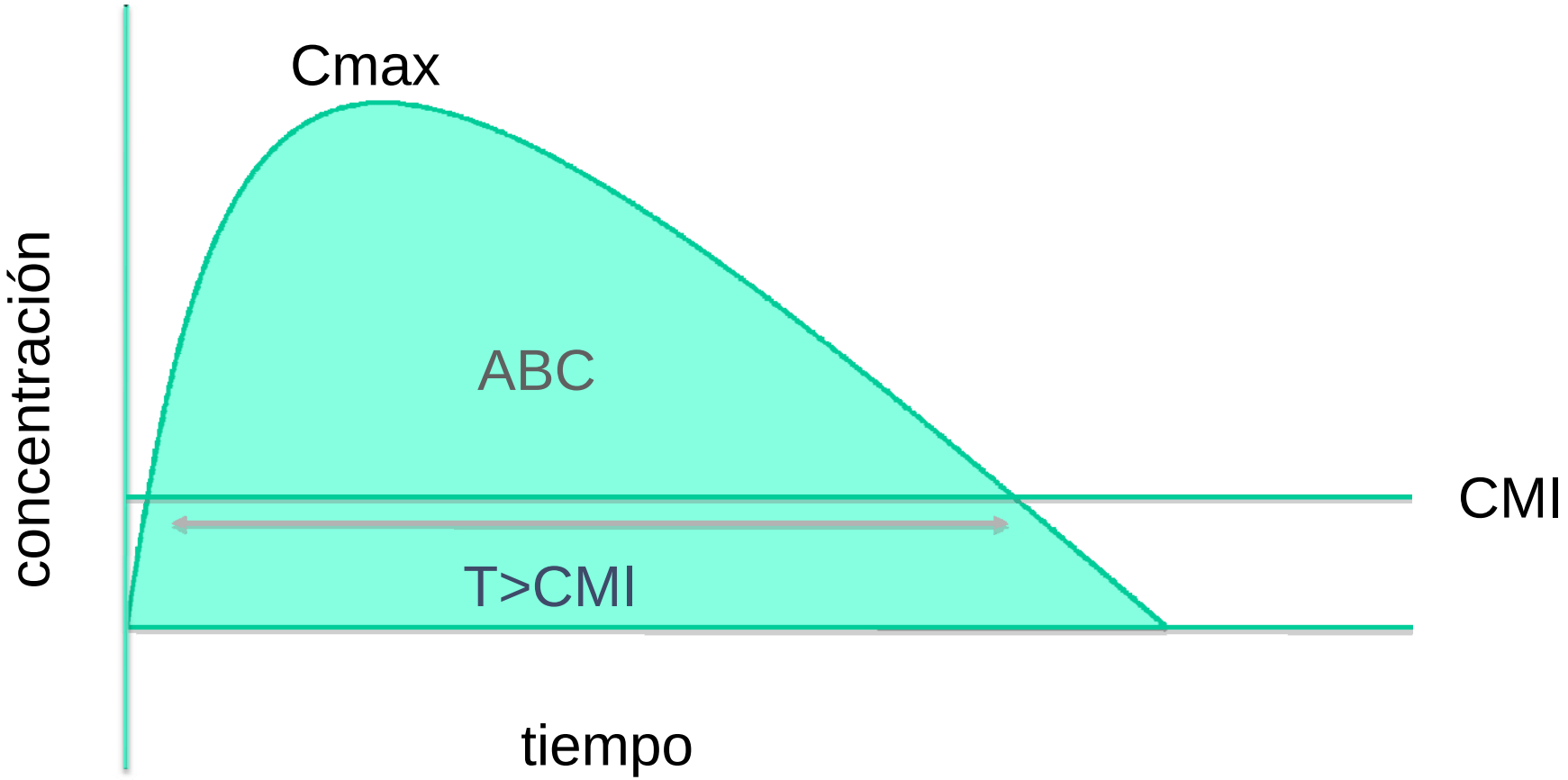


pK/pD



Varios

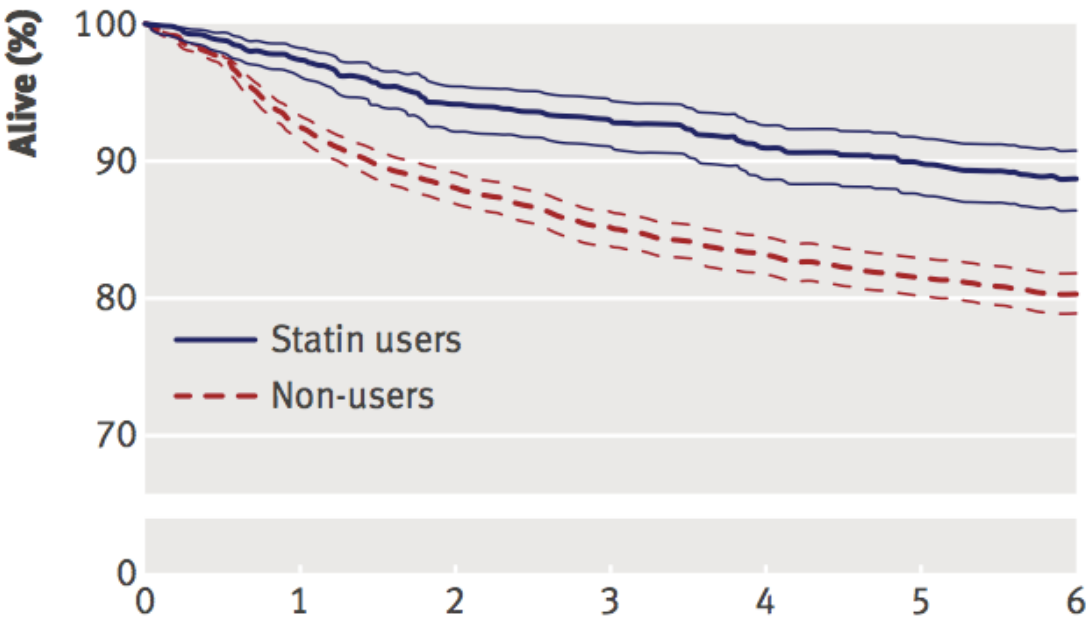
BMJ

RESEARCH

Effect of statin treatment on short term mortality after pneumonia episode: cohort study

Ian Douglas, lecturer in epidemiology, Stephen Evans, professor of pharmacoepidemiology, Liam Smeeth, professor of clinical epidemiology

Cite this as: *BMJ* 2011;342:d1642
doi:10.1136/bmj.d1642



Number at risk

No statin	2927	2675	2497	2376	2285	2184	2103
Statin	847	822	784	759	724	698	674

Kaplan-Meier survival estimates showing crude mortality estimates (with 95% confidence intervals) in six months after episode of pneumonia in statin users and non-users,

BMJ

BMJ 2011;343:d7281 doi: 10.1136/bmj.d7281 (Published 29 November 2011)

RESEARCH

Statins and prevention of infections: systematic review and meta-analysis of data from large randomised placebo controlled trials


OPEN ACCESS

Hester L van den Hoek *graduate student*[1 3], Willem Jan W Bos *internist*[2], Anthonius de Boer *professor of pharmacotherapy*[1], Ewoudt M W van de Garde *clinical pharmacist and epidemiologist*[1 3]

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Epidemic Profile of Shiga-Toxin–Producing *Escherichia coli* O104:H4 Outbreak in Germany — Preliminary Report

Christina Frank, Ph.D., Dirk Werber, D.V.M., Jakob P. Cramer, M.D., Mona Askar, M.D., Mirko Faber, M.D., Matthias an der Heiden, Ph.D., Helen Bernard, M.D., Angelika Fruth, Ph.D., Rita Prager, Ph.D., Anke Spode, M.D., Maria Wadl, D.V.M., Alexander Zoufaly, M.D., Sabine Jordan, M.D., Klaus Stark, M.D., Ph.D., and Gérard Krause, M.D., Ph.D., for the HUS Investigation Team*


PERPETUATOR

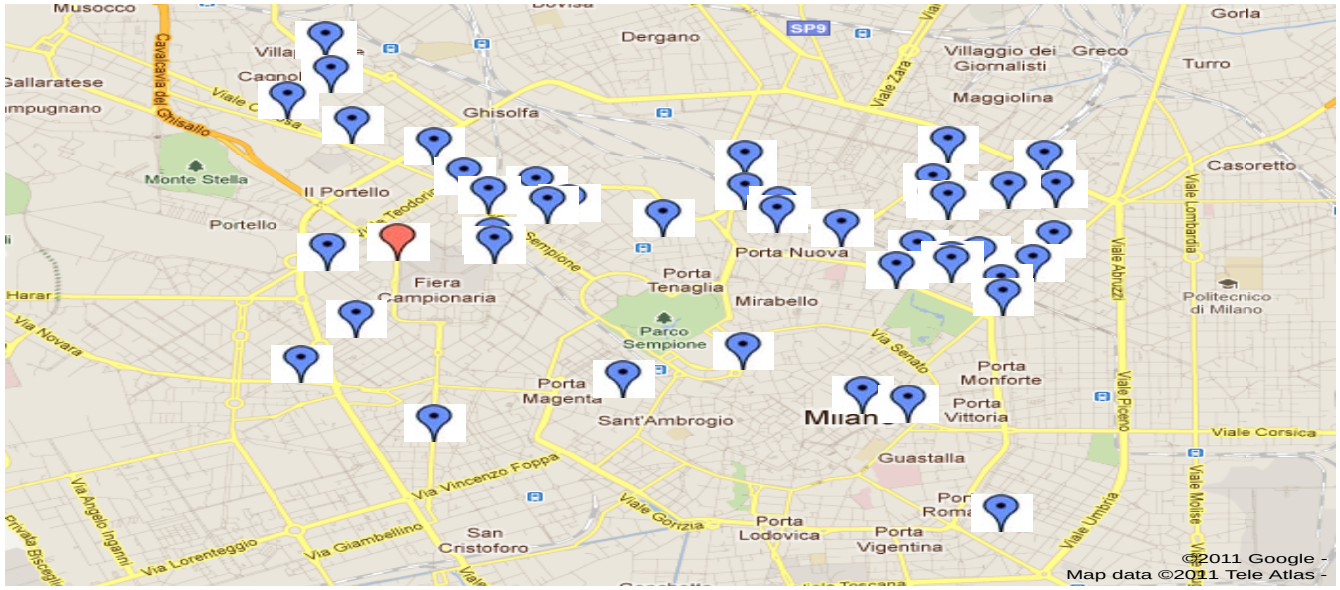
ANTIMICROBIAL AGENTS AND CHEMOTHERA
0066-4804/11/$12.00 doi:10.1128/AAC.001
Vol. 55, No. 6

Isolation of *Pseudomona* llo-β-Lactamase SPM-1 and 16S rR ban River[▽]

21st 27th ECCMID ICC

ESCMID

Milan City Map



List of all hotels

Click here to see a larger map and where the hotels are located.

ECCMID 2011

- 18 moléculas nuevas hasta el 2020
- 8 activas frente a microorganismos gramnegativos
- Ninguna con actividad frente a las cepas multiR actuales

Nueva estrategia frente a microorganismos multiR

- Inserción de fragmentos de ADN en cepas de *E coli* que liberan piocinas, toxinas activas frente a *P aeruginosa*.

- Saeidi N, et al. Engineering microbes to sense and eradicate *Pseudomonas aeruginosa*, a human pathogen. Molecular Systems Biology 7:521