GEIRAS 2019
MADRID
Reunión Anual del Grupo de Estudio de Infecciones Relacionadas con la Asistencia Sanitaria

Lunes 16 diciembre 2019
ICOMEM Colegio de Médicos de Madrid

GEIRAS

eimc

"Estrategia multidisciplinar en la optimización de antimicrobianos: ¿es posible reducir la duración del tratamiento antibiótico?"

GEIRAS 2019

¿Es posible acortar la duración del tratamiento de la infección associada a catéter intravascular?

Josep A. Capdevila Morell

Servicio de Medicina Interna. Hospital de Mataró, Barcelona

jacapdevilamorell@gmail.com

jacapdevilamorell@gmail.com

Fig. 3. Imagen coronal de resonancia magnética, ponderada en T2, correspondiente a uno de los pacientes con espondilodiscitis estafilocócica dorsal (D8-D9). Puede observarse la desaparición del espacio discal, las erosiones de los cuerpos vertebrales y la extensión a partes blandas adyacentes. El enfermo presentaba un empiema pleural izquierdo secundario.

Retirada catèter +/- trat. sistémico

Trat. sistémico +/- retirada. (Trat. Conservador con ALT)

Duración del Trat. Sistémico: Depende del microorganismo y de la presencia de complicacions: 0-42 ....días

©TIRAS 2016

jacapdevilamorell@gmail.com

Table 4 Indications for catheter removal in patients with CRBSI.

CRBSI presenting with septic shock
CRBSI caused by certain pathogens: *S. aureus*,* non-fermenting Gram-negative bacilli, *Candida* spp. or *Mycobacterium*
Metastatic complications (endocarditis, thrombophlebitis or septic pulmonary embolism)
Bacteremia (or candidemia) persisting after 72 h of adequate treatment
Pus is observed at the insertion site
Signs of infection at the subcutaneous tunnel *
No possibility of antibiotic lock therapy

GEIRAS 2019

jacapdevilamorell@gmail.com

International Journal of Infectious Diseases 84 (2019) 22–29

Contents lists available at ScienceDirect

International Journal of Infectious Diseases

journal homepage: www.elsevier.com/locate/ijid

GEIRAS 2019

Review

Managing and preventing vascular catheter infections: A position paper of the international society for infectious diseases

7 a 14 días....

4-6 semanas si complicaciones

jacapdevilamorell@gmail.com

Guidelines for the Prevention of Intravascular Catheter-related Infections

Clinical Infectious Diseases 2011;52(9):e162–e193

Naomi P. O'Grady,[1] Mary Alexander,[2] Lillian A. Burns,[3] E. Patchen Dellinger,[4] Jeffrey Garland,[5] Stephen O. Heard,[6] Pamela A. Lipsett,[7] Henry Masur,[1] Leonard A. Mermel,[8] Michele L. Pearson,[9] Issam I. Raad,[10] Adrienne G. Randolph,[11] Mark E. Rupp,[12] Sanjay Saint,[13] and the Healthcare Infection Control Practices Advisory Committee (HICPAC) (Appendix 1)

[1]Critical Care Medicine Department, National Institutes of Health, Bethesda, Maryland; [2]Infusion Nurses Society, Norwood, Massachusetts; [3]Staten

CONSENSUS STATEMENT

Diagnosis and treatment of catheter-related bloodstream infection: Clinical guidelines of the Spanish Society of Infectious Diseases and Clinical Microbiology and (SEIMC) and the Spanish Society of Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICYUC)☆

F. Chaves[a], J. Garnacho-Montero[b,*], J.L. del Pozo (Coordinators)[c],
Authors: E. Bouza[d], J.A. Capdevila[e], M. de Cueto[f], M.Á. Domínguez[g], J. Esteban[h], N. Fernández-Hidalgo[i], M. Fernández Sampedro[j], J. Fortún[k], M. Guembe[l], L. Lorente[m], J.R. Paño[n], P. Ramírez[o], M. Salavert[p], M. Sánchez[q], J. Vallés[r]

GEIRAS 2019

jacapdevilamorell@gmail.com

Duración tratamiento bacteriemia x catéter

Microorganismo	Con retirada catéter	Sin retirada catéter	
S. epidermidis	5 días vancomicina*	10-14 días Ab sistémico ** 10-14 días ALT	
S. aureus	14 días cloxa o cefa-1*** Vanco o daptomicina	Retirada obligatoria	**Ecocardio**
Enterococo	7-14 días ampicil·lina (vancomicina)	Retirada obligatoria	**Ecocardio**
Bacilos gram negativos	>7 días	10-14 días Ab sistémico 10-14 días ALT	
Cándida spp.	14 días después 1er HE negativo y no metástasis	Retirada obligatoria	**Ecocardio**

GEIRAS 2019

* Si cuerpo extraño i/o persistència de signos infección tras retirada: 10-14d
**Retirada si *S. lugdonensis*
***Bacteryemia no complicada¡¡¡

jacapdevilamorell@gmail.com

BI-CIII

Cuando iniciar cobertura frente a gram negativos? (CIII)

- Shock
- Colonización
- Inmunodepresión, neutropenia, cáncer hematológico, trasplante..
- Acceso femoral
- Estancia prolongada en UCI

Con cual antibiótico?

GEIRAS 2019

jacapdevilamorell@gmail.com

Cuando iniciar un tratamiento antifúngico? (CIII)

- Shock y una o más circunstancias:
  - Nutrición parenteral total
  - Uso prolongado de antibióticos de amplio espectro y/o anaerobicidas
  - Cáncer
  - Catéter femoral
  - Colonización múltiple

GEIRAS 2019

jacapdevilamorell@gmail.com

Cultivo positivo de la punta del catèter:

- 5-7 días de antibiótico si punta + a *S. aureus* y hemos negativos en pacientes con signos de infección local o sistémica **(B-II)** .

- Valorar cada caso en particular si punta + a *Cándida spp.* y hemos negativos o no disponibles. en un paciente no-neutropénico o sin cardiopatía valvular. No se debe establecer un tratamiento antifúngico en pacientes sin signos de infección**(B-II)** .

- No se pueden establecer recomendaciones concretes de tratamiento en los catéteres colonizados por otros microorganismos **(C-III)** .

GEIRAS 2019

Antibiotic lock technique - ALT (BI)

Monitorizar HE

- Duración 10-14 días. Menor en BGN?¡.
- Mínimo de 12 h/día
- Recambio 24/72h

- 70% etanol o taurolidina son alternativas **(BI)**

- EDTA y Citrato.....(?)

GEIRAS 2019

jacapdevilamorell@gmail.com

Terapia secuencial?

- Estabilidad clínica sin complicaciones y con negatividad de los cultivos después de inicio endovenoso y retirada del catéter
  - CGPs i BGNs **(AII)** .
  - *Cándida spp.* **(CIII)** .

- Pero: cuantos días después?, siempre retirada del catéter?

GEIRAS 2019

678 episodios

Microorganismes responsables de les bacterièmies de catèter

TAULA 19: MICROORGANISMES MÉS PREVALENTS

Microorganisme	Nombre episodis de bacterièmia de catèter venós	Percentatge
Staphylococcus epidermidis	214	31,6 *
S. aureus sensible a la meticilina	135	19,9 *
Klebsiella pneumoniae	53	7,8
S. Coagulasa negatiu	48	7,1 *
Pseudomonas aeruginosa	37	5,5
S. aureus resistent a la meticilina (SARM)	31	4,6 *
Candida albicans	25	3,7
Enterobacter cloacae	24	3,5
Candida spp.	21	3,1
Enterococcus faecalis	20	2,9
Escherichia coli	15	2,2
Staphylococcus spp.	13	1,9
Enterococcus faecium	12	1,8
Serratia marcescens	11	1,6
Enterobacter aerogenes	9	1,3
Klebsiella oxytoca	7	1,0
Proteus mirabilis	5	0,7

(*)El nombre total de microorganismes es superior al total d'episodis perquè s'incorporen els d'etiologia polimicrobiana i els microorganismes 1 i 2

63,2% **(2/3 SCoN)**

18% Enterobacterias

Vigilància de la infecció nosocomial als hospitals de Catalunya (VINCat)

Informe 2016

GEIRAS 2019

jacapdevilamorell@gmail.com

Havey et al. Critical Care 2011, 15:R267
http://ccforum.com/content/15/6/R267

CRITICAL CARE

RESEARCH Open Access

Duration of antibiotic therapy for bacteremia: a systematic review and meta-analysis

Pubmed
1947-2010

Thomas C Havey[1], Robert A Fowler[1,2] and Nick Daneman[1,3*]

Results: Twenty-four eligible trials were identified, including one trial focusing exclusively on bacteremia, zero in catheter related bloodstream infection, three in intra-abdominal infection, six in pyelonephritis, thirteen in pneumonia and one in skin and soft tissue infection. Thirteen studies reported on 227 patients with bacteremia allocated to 'shorter' or 'longer' durations of treatment. Outcome data were available for 155 bacteremic patients: neonatal bacteremia (n = 66); intra-abdominal infection (40); pyelonephritis (9); and pneumonia (40). Among bacteremic patients receiving shorter (5-7 days) versus longer (7-21 days) antibiotic therapy, no significant difference was detected with respect to rates of clinical cure (45/52 versus 47/49, risk ratio 0.88, 95% confidence interval [CI] 0.77-1.01), microbiologic cure (28/28 versus 30/32, risk ratio 1.05, 95% CI 0.91-1.21), and survival (15/17 versus 26/29, risk ratio 0.97, 95% CI 0.76-1.23).

Conclusions: No significant differences in clinical cure, microbiologic cure and survival were detected among bacteremic patients receiving shorter versus longer duration antibiotic therapy. An adequately powered randomized trial of bacteremic patients is needed to confirm these findings.

GEIRAS 2019

jacapdevilamorell@gmail.com

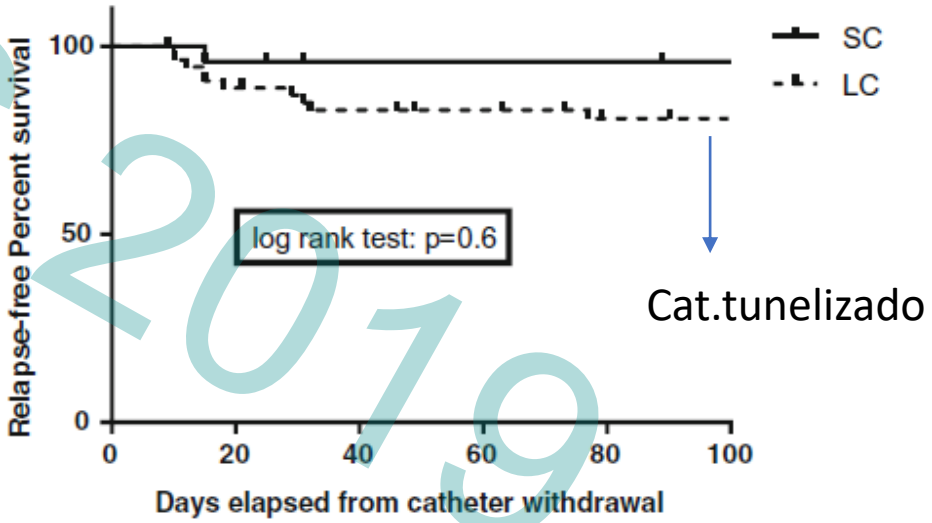
A short course of antibiotic treatment is safe after catheter withdrawal in catheter-related bloodstream infections due to coagulase-negative staphylococci

European Journal of Clinical Microbiology & Infectious Diseases (2019) 38:977–983
https://doi.org/10.1007/s10096-019-03545-8

Rafael San-Juan[1] · Iván Martínez-Redondo[1] · Mario Fernández-Ruiz[1] · María Ruiz-Ruigómez[1] · Pilar Hernández-Jiménez[1] · Jose Tiago Silva[1] · Francisco López-Medrano[1] · Raúl Recio[2] · María A
José María Aguado[1]

GEIRAS 2019

Tto. ≤ 3 días vs. > 3 dies
Retirada catèter
Retrospectivo
Propensity score adjusted



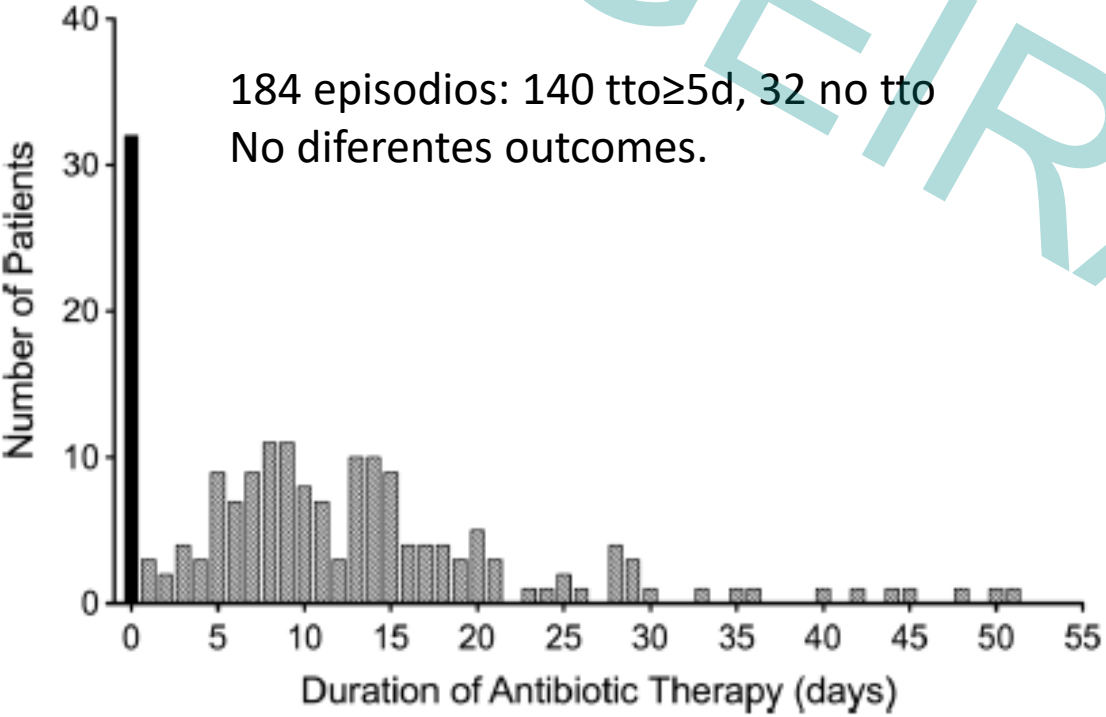
interval, 1.6–21) whereas the duration of therapy had no apparent impact. Shortening antibiotic therapy to ≤3 days is not associated with a poorer outcome or a greater risk of MR in patients with CoNS CRBI with catheter withdrawal.

jacaldevilamorell@gmail.com

Catheter-related bloodstream infections with coagulase-negative staphylococci: are antibiotics necessary if the catheter removed?

Hebeisen et al. Antimicrobial Resistance and Infection Control (2019) 8:21
https://doi.org/10.1186/s13756-019-0474-x

GEIRAS 2019



184 episodios: 140 tto≥5d, 32 no tto
No diferentes outcomes.

Table 3 Group comparisons following the nearest neighbor matching process

Characteristic	Treatment ≥5 days ($n = 32$)	No Treatment ($n = 32$)	*p*-value
Age mean (±SD)	58.0 (±15.7)	57.3 (±11.5)	0.892
Sex (mean)	26 (81%)	24 (75)	0.762
ICU	11 (34%)	10 (31%)	1.000
Internal medicine	11 (34%)	12 (38%)	1.000
Malignancy	13 (41%)	11 (34%)	0.796
Hematologic cancer	3 (9%)	2 (6%)	1.000
Immunosuppression	5 (16%)	5 (16%)	1.000
Renal failure	5 (16%)	7 (22%)	0.749
CCI, mean	4.3	4.1	0.109
Any surgical treatment	21 (66%)	18 (56%)	0.608
Orthopedic hardware or intravascular prosthetic material	10 (31%)	8 (25%)	0.781
Fever (> 38.2 °C)	19 (59%)	17 (53%)	0.801
Catheter type: short-term	29 (91%)	30 (94%)	1.000
Primary endpoint (Non-resolved Infection)	5 (16%)	0 (0%)	0.062

No diferencias en comorbidades ni "cuerpo extraño"

S.lugdonensis excluded

jacapdevilamorell@gmail.com

Impact on mortality of adherence to evidence-based interventions in patients with catheter-related bloodstream infection due to methicillin-sensitive *Staphylococcus aureus*

INFECTIOUS DISEASES,
2018; VOL. 50,
NO. 11-12, 837–846

Alejandra Morales-Cartagena[a]†, Mario Fernández-Ruiz[a], Antonio Lalueza[a], Jaime Lora-Tamayo[a], Rafael San Juan[a], Francisco López-Medrano[a], Julia Origüen[a], Fernando Chaves[b] and José María Aguado[a]

14 dies a ...

Table 3. Diagnostic and therapeutic interventions.

Variable	Overall cohort ($n = 225$)	Period 1 (2002–2004) ($n = 101$)	Period 2 (2009–2013) ($n = 124$)	p Value[a]
Interventions included in the bundle (n (%))				
Early catheter removal	179 (79.6)	77 (76.2)	102 (82.3)	.319
Early initiation of appropriate therapy[b]	136/216 (60.4)	63/101 (62.4)	73/115 (63.4)	.888
Appropriate follow-up blood cultures	87 (38.7)	27 (26.7)	60 (48.4)	.001
TTE during hospitalization	151 (67.1)	46 (45.5)	105 (84.7)	.001
Appropriate duration of therapy	97 (43.1)	35 (34.7)	62 (50.0)	.022
Bundle adherence (i.e. percentage of recommended interventions effectively performed), % (median (IQR))	60.0 (40.0–80.0)	60.0 (25.0–60.0)	60.0 (60.0–80.0)	<.001
Episodes with indication for TEE (n (%))[c]	103 (45.8)	37 (36.6)	66 (53.2)	.016
Performance of TEE (n (%))	21/104 (20.4)	6/37 (16.2)	15/66 (22.7)	.611
Episodes with indication for Doppler ultrasound examination (n (%))[d]	121 (53.8)	41 (40.6)	80 (64.5)	<.001
Performance of Doppler ultrasound examination (n (%))	99/121 (81.8)	22/41 (53.6)	77/80 (96.3)	<.001
Episodes with indication for vancomycin TDM (n (%))[e]	47 (20.9)	24 (23.8)	23 (18.5)	.411
Performance of vancomycin TDM (n (%))	3/47 (6.4)	3/24 (12.5)	0/23 (0.0)	.234
Antibiotic lock until catheter removal (n (%))	19 (8.4)	4 (4.0)	15 (12.1)	.032

GEIRAS 2019

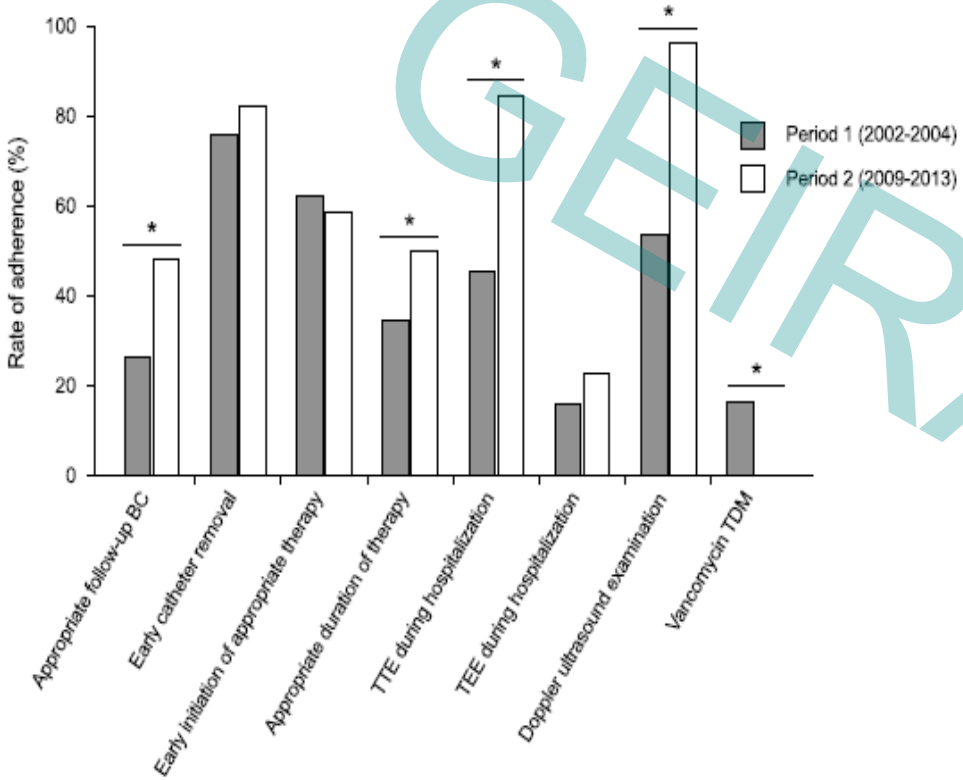


Figure 2. Adherence to diagnostic and therapeutic recommenda-

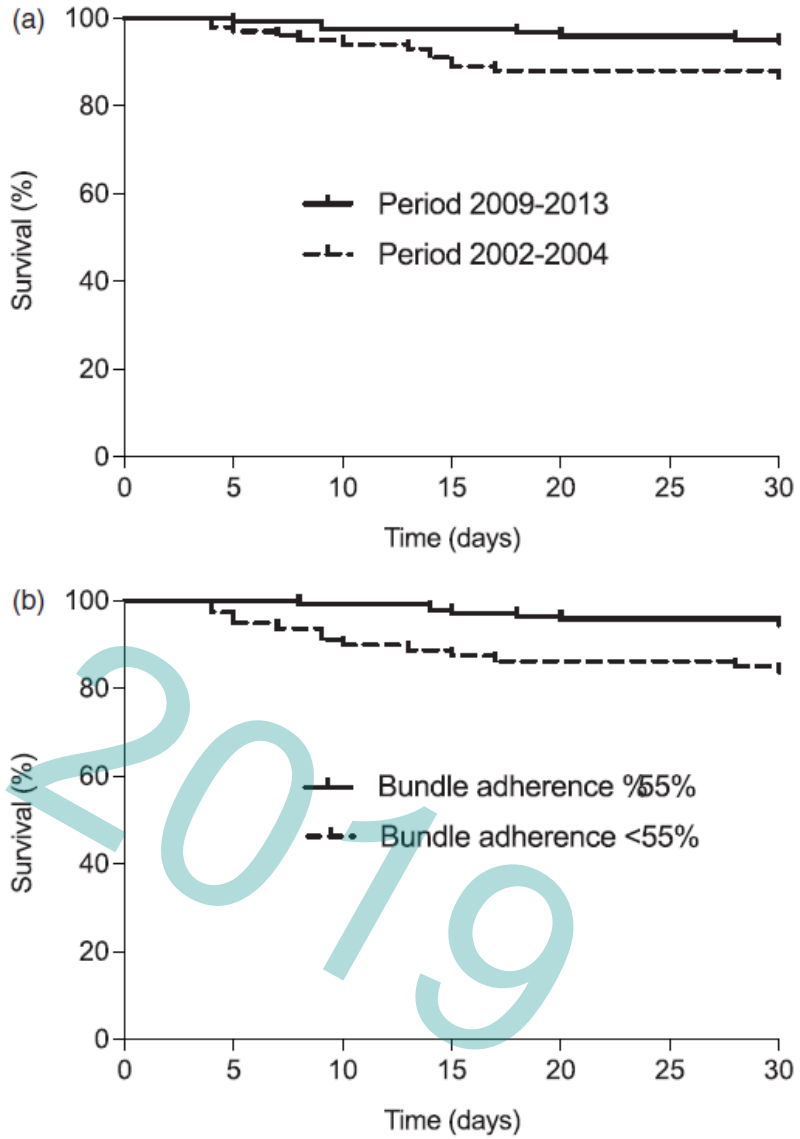


Figure 1. The Kaplan–Meier 30-day survival curves according to:

GEIRAS 2019

jacapdevilamorell@gmail.com

Early Oral Switch to Linezolid for Low-risk Patients With *Staphylococcus aureus* Bloodstream Infections: A Propensity-matched Cohort Study

Clinical Infectious Diseases® 2019;69(3):381–7

Rein Willekens,[1,2] Mireia Puig-Asensio,[1,2] Isabel Ruiz-Camps,[1,2] Maria N. Larrosa,[3] Juan J. González-López,[3] Dolors Rodríguez-Pardo,[1,2] Nuria Fernández-Hidalgo,[1,2] Carles Pigrau,[1,2] and Benito Almirante[1,2]

GEIRAS 2019

Table 2. Outcomes in Adult Patients With *Staphylococcus aureus* Bacteremia Comparing Treatment With Early Oral Switch to Linezolid and Standard Parenteral Treatment

	Whole Cohort			Propensity Score–matched Cohort		
Outcome	Oral Linezolid (n = 45)	Standard Treatment (n = 107)	*P* Value	Oral Linezolid (n = 45)	Standard Treatment (n = 90)	*P* Value
90-d relapse in survivors	1 (2.2)	4 (3.7)	1.00	1 (2.2)	4 (4.4)	.87
14-d mortality	0 (0.0)	10 (9.3)	.08	0 (0.0)	6 (6.7)	.18
30-d mortality	1 (2.2)	17 (15.9)	.04	1 (2.2)	12 (13.3)	.08
Length of hospital stay after index culture, d, median (IQR)[a]	8 (7–10)	19 (15–32)	<.01	8 (7–10)	19 (15–30)	<.01

Bacteremias no complicades, oral switch 3º-9º dia.
50% BCR. Catéter retirado a las 24 h.

Intravenous to oral switch therapy in cancer patients with catheter-related bloodstream infection due to methicillin-sensitive *Staphylococcus aureus*: A single-center retrospective observational study

PLOS ONE | https://doi.org/10.1371/journal.pone.0207413 November 29, 2018

Naoya Itoh[1]*, Yoshiro Hadano[2], Sho Saito[3], Michiko Myokai[1], Yasunobu Nakamura[4], Hanako Kurai[1]

GEIRAS 2019

*Incluye pacientes con bacteremia estafilocócica complicada o no.

*Switch ev/oral con al menos 10 dies Ev.

*Oral switch no se asocia a mayor mortalidad

*Pero.....pacientes con trat.oral recibieron Abs 33 dias (26-52) vs 17 (13-31) en los ev.¡¡¡

*Que se hizo con los catéteres?

jacapdevilamorell@gmail.com

Comparing the Outcomes of Adults With Enterobacteriaceae Bacteremia Receiving Short-Course Versus Prolonged-Course Antibiotic Therapy in a Multicenter, Propensity Score–Matched Cohort

Darunee Chotiprasitsakul,[1] Jennifer H. Han,[2] Sara E. Cosgrove,[3] Anthony D. Harris,[4] Ebbing Lautenbach,[2] Anna T. Conley,[5] Pam Tolomeo,[2] Jacqueleen Wise,[2] and Pranita D. Tamma[6]; for the Antibacterial Resistance Leadership Group

Clinical Infectious Diseases® 2018;66(2):172–7

[1]Department of Medicine, Division of Infectious Diseases, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand; [2]Department of Medicine, Division of Infectious Diseases, University Pennsylvania School of Medicine, Philadelphia; and [3]Department of Medicine, Division of Infectious Diseases, Johns Hopkins University School of Medicine, and Departments of [4]Epidemiolo Public Health and [5]Medicine, University of Maryland School of Medicine, and [6]Department of Pediatrics, Division of Infectious Diseases, Johns Hopkins University School of Medicine, Baltim

1769 pacientes tratados entre 6 y 16 días. ẋ:8 d.
Comparan 6-10 dias (n:385) con 10-16 dies (n:1384)
BxC: 14% vs 17,4%

En bacteriemias no complicades por enterobacterias un tratamiento corto es igual de eficaz que uno largo

Table 3. Thirty-Day All-Cause Mortality for Hospitalized Adult Patients With Enterobacteriaceae Bacteremia in a Propensity Score–Matched Cohort

Variable	Unadjusted HR (95% CI)	*P* Value	Adjusted HR[a] (95% CI)	*P* Value
Short-course therapy (6–10 d)	1.12 (.70–1.80)	.64	1.00 (.62–1.63)	.97
Urinary source	0.36 (.19–.67)	.001	0.49 (.26–.94)	.03
Pneumonia	3.06 (1.73–5.42)	<.001	1.60 (.85–3.02)	.15
Pitt bacteremia score	1.31 (1.21–1.42)	<.001	1.29 (1.17–1.43)	<.001
ICU on day 1 of bacteremia	2.38 (1.48–3.81)	<.001	0.99 (.56–1.76)	.98
End-stage liver disease	3.58 (2.05–6.06)	<.001	4.12 (2.30–7.39)	<.001
Immunocompromised status	1.03 (.63–1.70)	.89	1.40 (.83–2.36)	.21

Abbreviations: CI, confidence interval; HR, hazard ratio; ICU, intensive care unit.

GEIRAS 2019

jacapdevilamorell@gmail.com

Short- versus long-course therapy in gram-negative bacilli bloodstream infections

European Journal of Clinical Microbiology & Infectious Diseases (2019) 38:851–857
https://doi.org/10.1007/s10096-019-03467-5

Adrian Sousa[1,2] · María Teresa Pérez-Rodríguez[1,2] · Milagros Suárez[1,2] · Nuria Val[1,2] · Lucía Martínez-Lamas[3] · Andrés Nodar[1,2] · Rebeca Longueira[1,2] · Manuel Crespo[1,2]

GEIRAS 2019

Estudio prospectivo observacional
Bacteremia por BGNs no complicades
Tto. corto (7-10 d) vs. largo (>10 d.)
Mortalidat a los 30 d. y recurrència a los 90 d.

56% origen urinario
12% bacteremia x catéter

Subgrupo de pacientes con BRC mortalidad
22% (global 12%) no relacionada.???

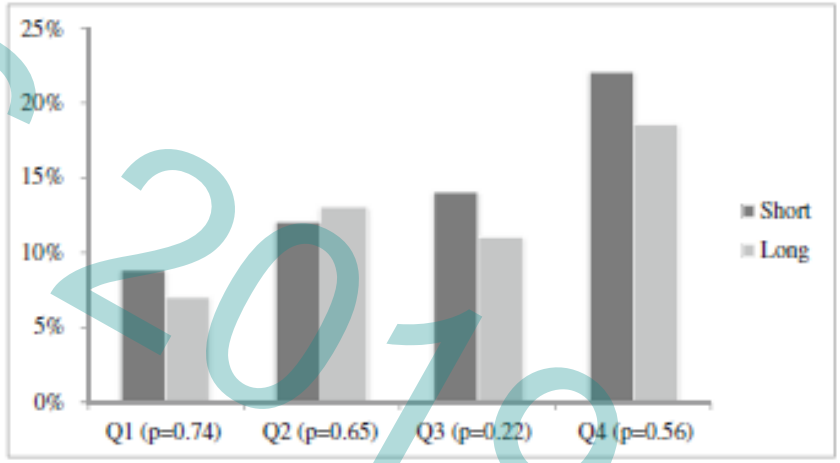


Fig. 2 Thirty-day mortality stratified according to Propensity Score quartile for receiving short-course therapy

El tratamiento corto es igual de eficaz y seguro que el largo

jacapdevilamorell@gmail.com

Concepto de bacteriemia por catéter complicada: retirada del catéter (AIII)

- Endocarditis
- Tromboflebitis supurada
- Tunelitis
- Absceso en el port-a-cath
- Metástasis sépticas
- Shock séptico
- Fiebre o bacteremia persistente > 72h.
- Inmunosupresión ?¡?¡

GEIRAS 2019

jacapdevilamorell@gmail.com

High success rate in salvage of catheter-related bloodstream infections due to *Staphylococcus aureus*, on behalf of project group of Italian society of nephrology

Mandolfo S.

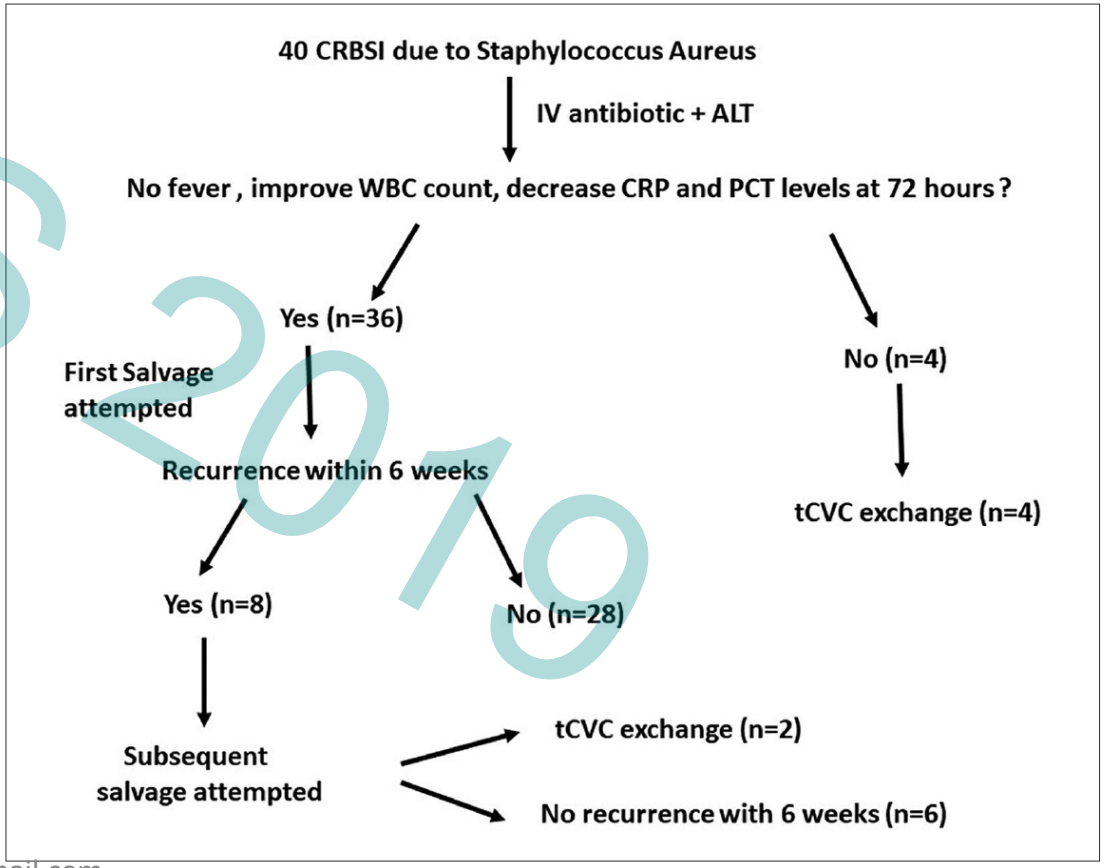
The Journal of Vascular Access
1–6

61 CGP (*S. aureus*: 40), 50 BGN y 2 polimicrob.

(85% curados)

Empiric therapy approach

First episode	Recurrence	New episode
Cephazoline 2 g IV plus Ceftazidime 1 g IV	Antibiotic therapy based on previous antibiogram, perhaps changing the drug	Antibiotic therapy based on clinical history
+ Lock therapy with cephazoline	+ Lock therapy based on previous antibiogram	+ Lock therapy based on clinical hystory



Revalorización a las 72 h. Parámetros analíticos, clinicios i ETE.
4 semanes de Abs sistèmicos i ALT

jacapdevilamorell@gmail.com

GEIRAS 2019

Table 2. Attempt of tCVC salvage reported in literature.

Authors (reference)	No. of patients	Success (%) for *Staphylococcus aureus*	Therapy loading dose	Vancomycin therapy scheme and recurrence
Vardhan et al[16]	23	MSSA 25% MRSA 12%	Vancomycin1 g Gentamicin 3 mg/kg ALT	Vancomycin therapy standardized for 2 weeks Recurrence not reported
Poole et al[17]	120	SA 40%	Vancomycin 20 mg/kg Ceftazidime 1 g ALT	Vancomycin 500 mg for eight HD sessions Recurrence not reported
Fernandez–Hidalgo et al[18]	98	SA 55%	Vancomycin 2 g Ciprofloxacin or Amikacin 2 g ALT	Vancomycin therapy standardized for 10–14 days Recurrence not reported for SA tCVC used for HD only in 37 patients
Maya et al[19]	113	SA 41%	Vancomycin 20 mg/kg – MRSA Cefazolin 1 g – MSSA ALT	Vancomycin 500 mg for 3 week Recurrence 27 (37%) within 3 months
Ashby et al[20]	133	SA 78%	Vancomycin 0.5–1 g According to body weight No ALT	Vancomycin monitoring concentration Recurrence 7 (39%) within 6 months

GEIRAS 2019

jacapdevilamorell@gmail.com

Antibiotic lock therapy for salvage of tunneled central venous catheters with catheter colonization and catheter-related bloodstream infection

Transpl Infect Dis. 2019;21:e13017.
https://doi.org/10.1111/tid.13017

Saurabh Zanwar[1] | Punit Jain[2] | Anant Gokarn[1] | Santhosh Kumar Devadas[1] |

86 vs 55%, catéter salvatge con o sin ALT

Hemodialysis International 2013; 17:75–85

Antibiotic lock solutions allow less systemic antibiotic exposure and less catheter malfunction without adversely affecting antimicrobial resistance patterns

Ali Mirza ONDER,[1] A. A. BILLINGS,[3] Jayanthi CHANDAR,[4] Linda NIELD,[2]
Denise FRANCOEUR,[4] Nancy SIMON,[5] Carolyn ABITBOL,[4] Gaston ZILLERUELO[4]
[1]*Department of Pediatrics, Division of Pediatric Nephrology, School of Medicine, West Virginia University, Morgantown, West Virginia, USA;* [2]*Department of Pediatrics, School of Medicine, West*

GEIRAS 2019

jacapdevilamorell@gmail.com

Take home messages

- La duración del tratamiento de la BxC es un tema muy empírico con pocas evidencias científicas.
- No podemos generalizar sobre la duración de la BxC. Hay que individualizar cada caso en particular.
- La BxC por *S. epidermidis* no precisa de tratamiento sistémico si se retira el catéter y no hay complicaciones >3 es = a < 3 días y cero.
- La BxC por enterobacterias no precisa de tratamiento sistémico superior a 7-10 días si se retira el catéter y no hay complicaciones.
- Un tratamiento secuencial ev/oral no tiene porque comportar un peor pronóstico

GEIRAS 2018

jacapdevilamorell@gmail.com