JN 23es Journées Nationales d'Infectiologie
Bordeaux
et la région Aquitaine
Palais des Congrès
du mercredi 15 juin 2022
au vendredi 17 juin 2022

Dépistage des BLSE en réanimation: utile ou futile?

Pr K. Razazi
Service de Médecine intensive-réanimation
Hôpital Henri Mondor, Créteil

Déclaration d'intérêts de 2014 à 2022

- Intérêts financiers : aucun
- Liens durables ou permanents :aucun
- Interventions ponctuelles :aucune
- Intérêts indirects :aucun

Plan

I. Etat des lieux
II. Intérêt du dépistage pour réduire l'acquisition ou les infections à BLSE
III. Intérêt du dépistage pour l'antibiothérapie probabiliste?

Plan

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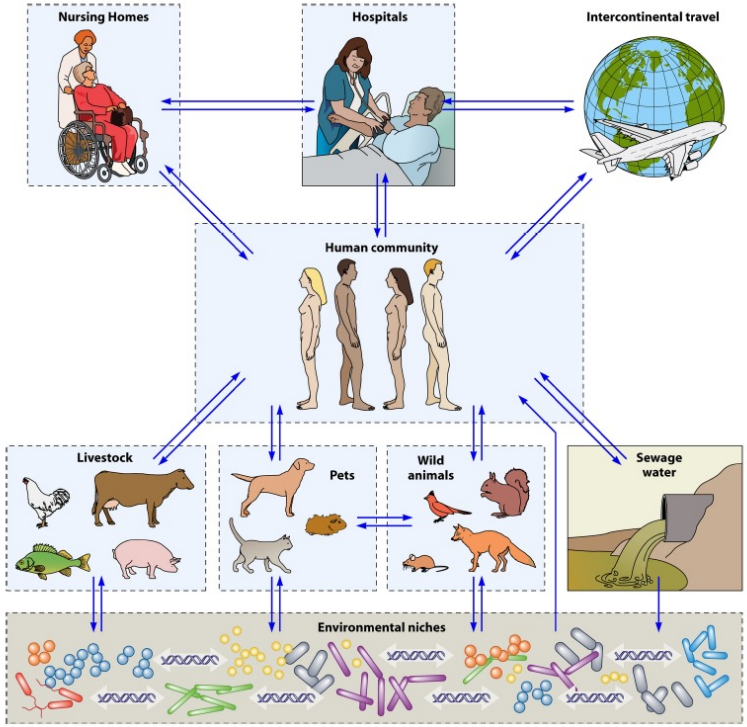
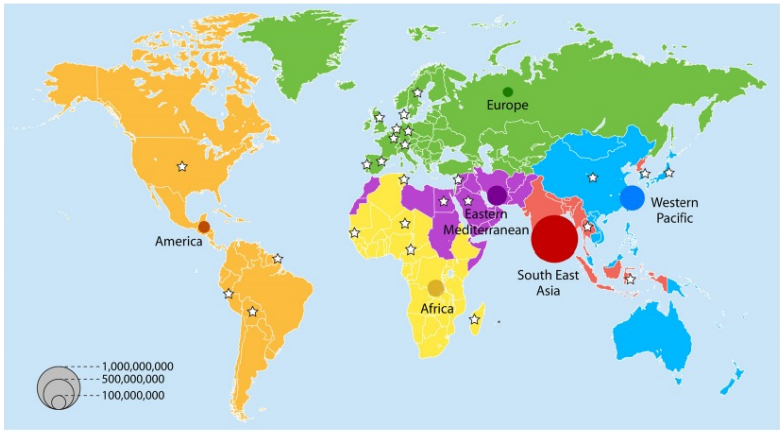
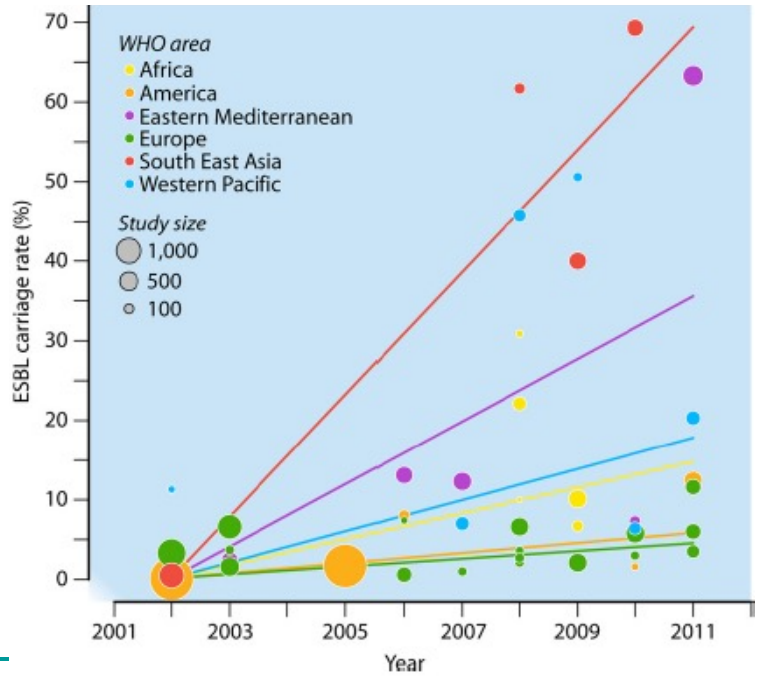
Contexte

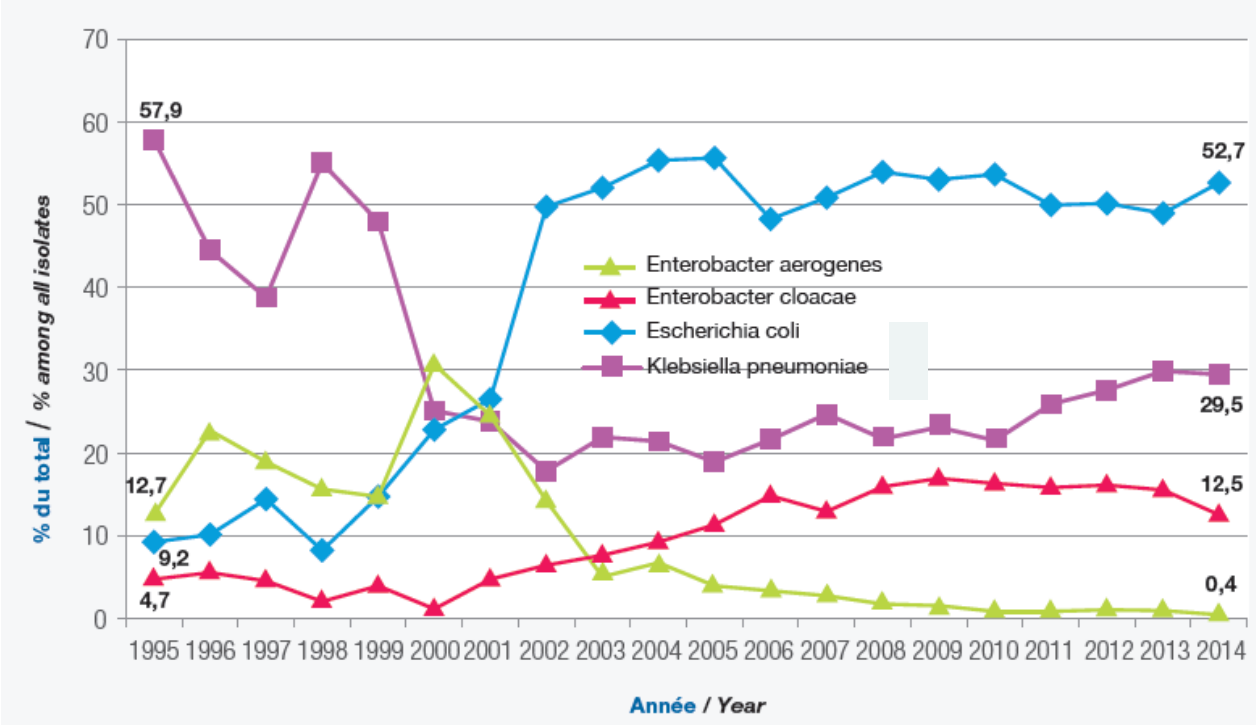






Woerther *et al,* CMR 2013

Répartition espèce BLSE - AP-HP



Major Article

Disparity of the “screen-and-isolate” policy for multidrug-resistant organisms: A national survey in French adult ICUs

Zoé Coppéré MD [a], Guillaume Voiriot MD [a,b], Clarisse Blayau MD [a], Aude Gibelin MD [a,b], Vincent Labbe MD [a,b], Jean Pierre Fulgencio MD [a], Muriel Fartoukh MD, PhD [a,b], Michel Djibré MD [a,*]

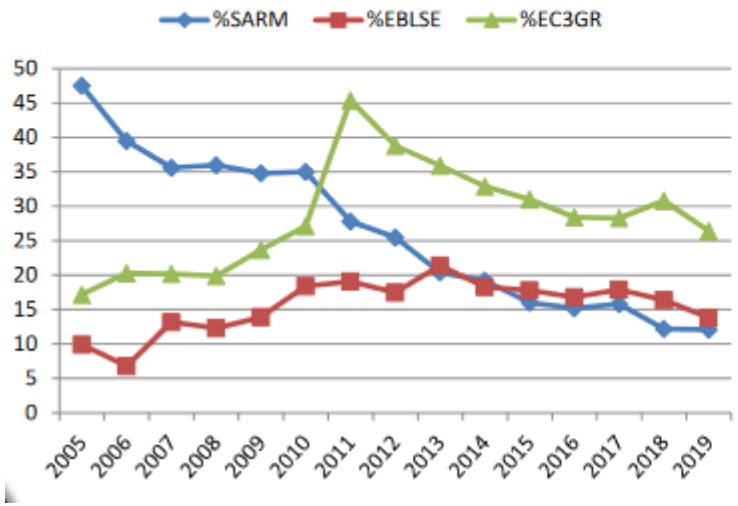
réAZréZo

- Systématique à l’admission de BLSE
  - ✓ 73-93% des services de réanimation
  - ✓ Non fait dans 5% des services
- Puis une fois par semaine
  - ❑ 82%

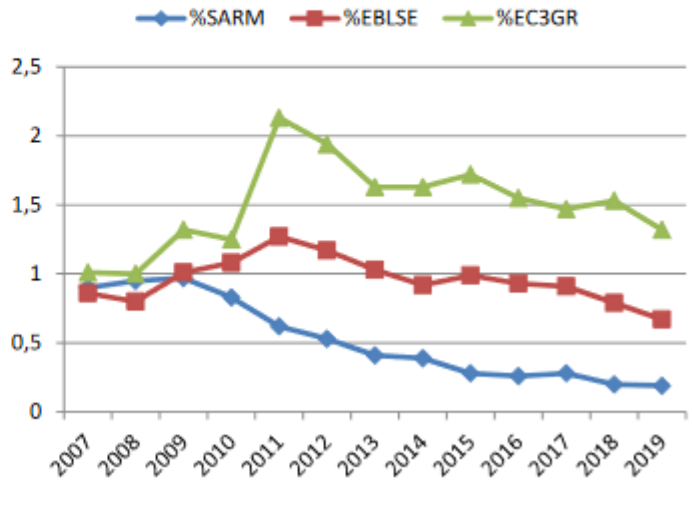
En réanimation

Année	2015	2016	2017	2018	2019	2020
Portage BLSE admission%	8,1	8,7	8,0	7,5	7,8	7,3
Acquisition%	2,6	2,7	2,6	2,5	2,2	2,8

Pourcentage résistance

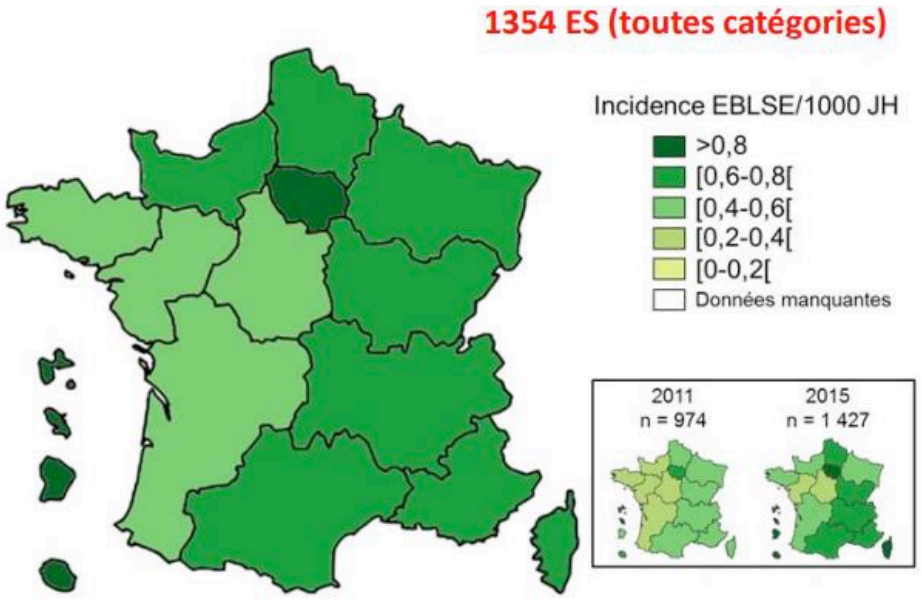


Infections



Ecologie locale: Hétérogénéité même en France

- Ile de France 15%
- Bretagne 4%



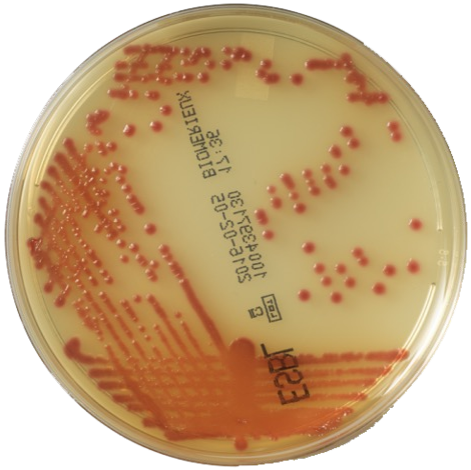
BMR-Raisin 2016

Décolonisation spontanée en réa ?

- Seulement 2,5 % des colonisés
- Intérêt du dépistage chez les colonisés connus?

Duployez J. Hosp. Infect. 2020

Inconvéniants du dépistage



- Cout : 16,2€ -> 24000 euros
- Charge de travail au laboratoire
- Désagréable pour le patient
- Problème du parcours patient (examens, sortie de réa)
- Isolement = Evènements indésirables et erreurs médicales

Zahar ICM 2013

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Objectifs du dépistage

Isoler les colonisés

Eviter la transmission croisée

Diminuer les infections acquises à BLSE

Décolonisation

MCO

Contact precautions in single-bed or multiple-bed rooms for patients with extended-spectrum β-lactamase-producing Enterobacteriaceae in Dutch hospitals: a cluster-randomised, crossover, non-inferiority study

*Marjolein F Q Kluytmans-van den Bergh, Patricia C J Bruijning-Verhagen, Christina M J E Vandenbroucke-Grauls, Els I G B de Brauwer, Anton G M Buiting, Bram M Diederen, Erika P M van Elzakker, Alex W Friedrich, Joost Hopman, Nashwan al Naiemi, John W A Rossen, Gijs J H M Ruijs, Paul H M Savelkoul, Carlo Verhulst, Margreet C Vos, Andreas Voss, Marc J M Bonten, Jan A J W Kluytmans, on behalf of the SoM Study Group**

- Étude de non inferiorité
- 16 hôpitaux de 2011 à 2014
- 463 cas, 7093 contact
- Transmission en chambre double 14(7%) vs 11 (4%) en chambre simple = non inferieur

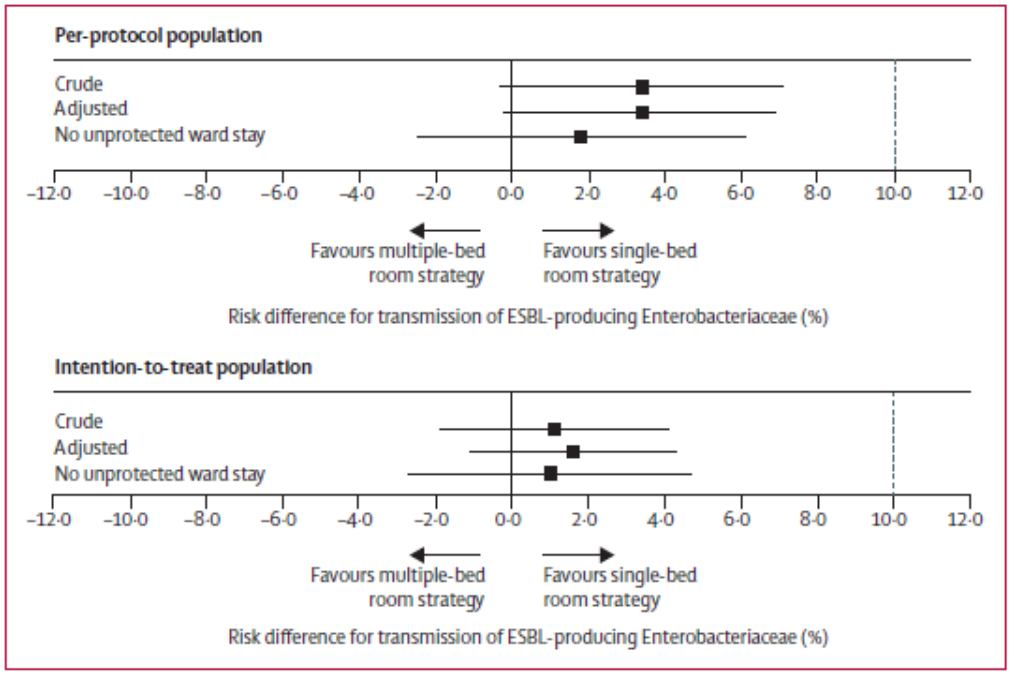


Figure 2: **Non-inferiority plots for the primary outcome**

Intérêt dans l'hôpital

- Evaluation un jour donné:
  - 17% de portage
  - 66-80% des porteurs ne sont pas identifiés

Pilmis J Hosp Infect 2018, Jolivet CMI 2018

En Réa

Available online at www.sciencedirect.com

Journal of Hospital Infection

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

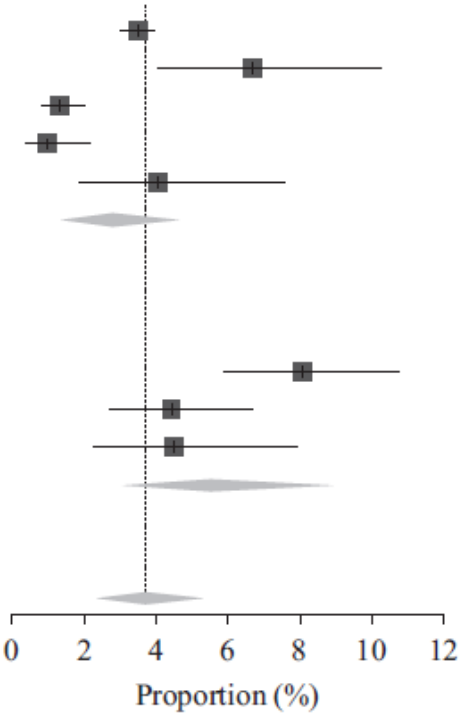
Review

Acquisition of MDR-GNB in hospital settings: a systematic review and meta-analysis focusing on ESBL-E

J. Vink*, J. Edgeworth, S.L. Bailey

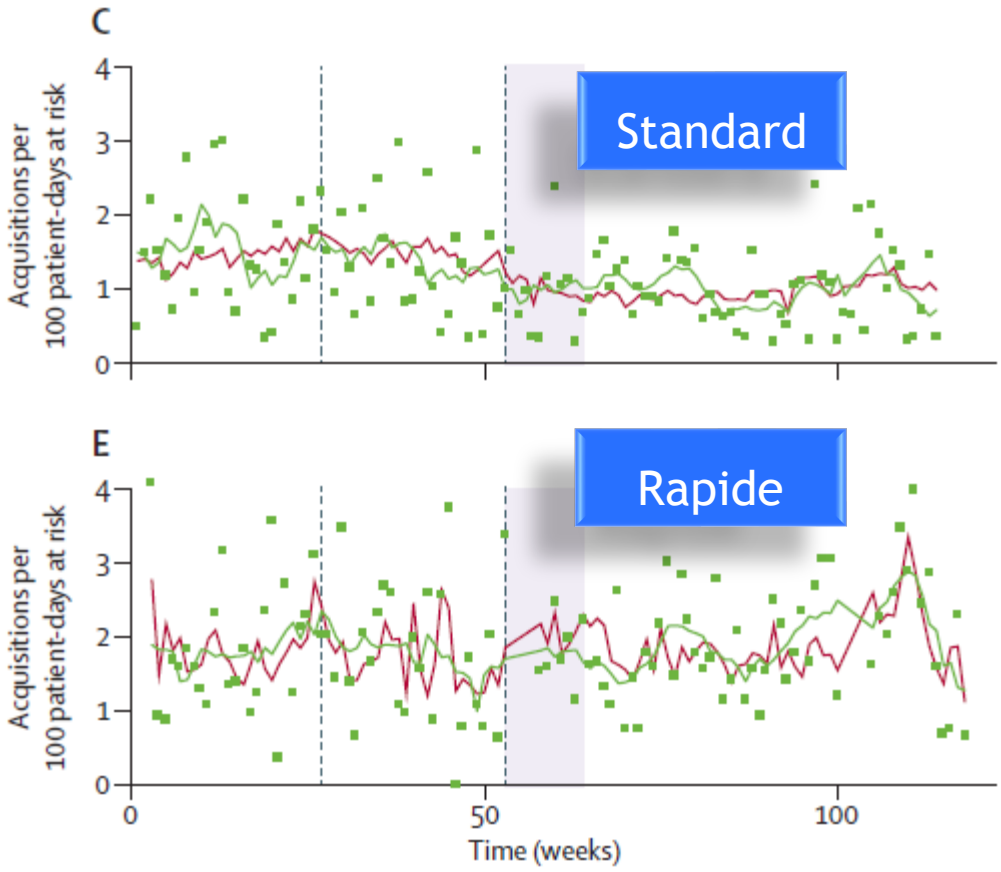
Centre for Clinical Infection and Diagnostics Research, Department of Infectious Diseases, Kings College London and Guy's & St Thomas' NHS Foundation Trust, London, UK

Study	ESBL-E acquisition (%)	95% C.I.
ICU		
Ajao *et al.* 2013	3.49	[3.09; 3.93]
Alves *et al.* 2016	6.69	[4.08; 10.25]
Harris *et al.* 2007	1.33	[0.84; 1.99]
Prevel *et al.* 2019	0.99	[0.36; 2.14]
Repesse *et al.* 2017	4.07	[1.88; 7.59]
Combined prevalence	**2.81**	**[1.44; 4.60]**
Heterogeneity: $I^2 = 92\%$, $\tau^2 = 0.0024$, $\chi^2_4 = 51.33$ ($P < 0.01$)		
Non-ICU		
Hagel *et al.* 2019	8.09	[5.89; 10.78]
Pasricha *et al.* 2013	4.44	[2.77; 6.71]
Schoevaardts *et al.* 2012	4.53	[2.28; 7.96]
Combined prevalence	**5.65**	**[3.07; 8.92]**
Heterogeneity: $I^2 = 70\%$, $\tau^2 = 0.0024$, $\chi^2_2 = 6.59$ ($P = 0.04$)		
Combined prevalence	**3.72**	**[2.41; 5.30]**
Heterogeneity: $I^2 = 91\%$, $\tau^2 = 0.0024$, $\chi^2_7 = 81.62$ ($P < 0.01$)		
Residual heterogeneity: $I^2 = 90\%$, $\chi^2_6 = 57.92$ ($P < 0.01$)		



Interventions to reduce colonisation and transmission of antimicrobial-resistant bacteria in intensive care units: an interrupted time series study and cluster randomised trial

Lennie P G Derde, Ben S Cooper, Herman Goossens, Surbhi Malhotra-Kumar, Rob J L Willems, Marek Gniadkowski, Waleria Hryniewicz, Joanna Empel, Mirjam J D Dautzenberg, Djillali Annane, Irene Aragão, Annie Chalfine, Uga Dumpis, Francisco Esteves, Helen Giamarellou, Igor Muzlovic, Giuseppe Nardi, George L Petrikkos, Viktorija Tomic, Antonio Torres Martí, Pascal Stammet, Christian Brun-Buisson, Marc J M Bonten*, on behalf of the MOSAR WP3 Study Team*



Est-ce que toutes les BLSE sont équivalentes?

Clinical Infectious Diseases

MAJOR ARTICLE

The Transmissibility of Antibiotic-Resistant Enterobacteriaceae in Intensive Care Units

Tanya Gurieva,[1,a] Mirjam J. D. Dautzenberg,[1,2,a] Marek Gniadkowski,[3] Lennie P. G. Derde,[1,4] Marc J. M. Bonten,[1,2] and Martin C. J. Bootsma[1,5]

[1]Julius Center for Health Sciences and Primary Care and [2]Department of Medical Microbiology, University Medical Center Utrecht, The Netherlands; [3]Department of Molecular Microbiology, National Medicines Institute, Warsaw, Poland; and [4]Department of Intensive Care Medicine, University Medical Center Utrecht, and [5]Faculty of Sciences, Department of Mathematics, Utrecht University, The Netherlands

Table 1. Estimation of Transmission Parameters of Non–*Escherichia coli* Enterobacteriaceae and *E. coli* in 13 European Intensive Care Units Using a Random-Effects Model With No Effect of the Interventions

	Patients Included (n = 11 420)	
Parameter	Non-EcE	*Escherichia coli*
No. of patients colonized at admission (%)	401 (3.8%)	356 (3.3%)
No. of patients with documented acquisition	783	281
Acquisition rate per 100 uncolonized admissions	7.4	2.6
Cross-transmission parameter β_0, (95% CrI)	0.029 (.016–.049)	0.0078 (.0029–.016)
Single-admission reproduction number R_A (95% CrI)	0.17 (.094–.29)	0.047 (.018–.098)
Transmission parameter α_0, (95% CrI)	0.0048 (.0022–.011)	0.0024 (.0013–.0039)
Relative transmission capacity of non–*E. coli* Enterobacteriaceae vs *E. coli* ($\beta_0^{\text{non-EcE}}/\beta_0^{\text{E. coli}}$) (95% CrI)	3.7 (1.4–11.3)	

Estimates are the values with the highest posterior probability density. Of 14 390 patients, only the 11 420 with at least 1 culture result were used in this analysis.

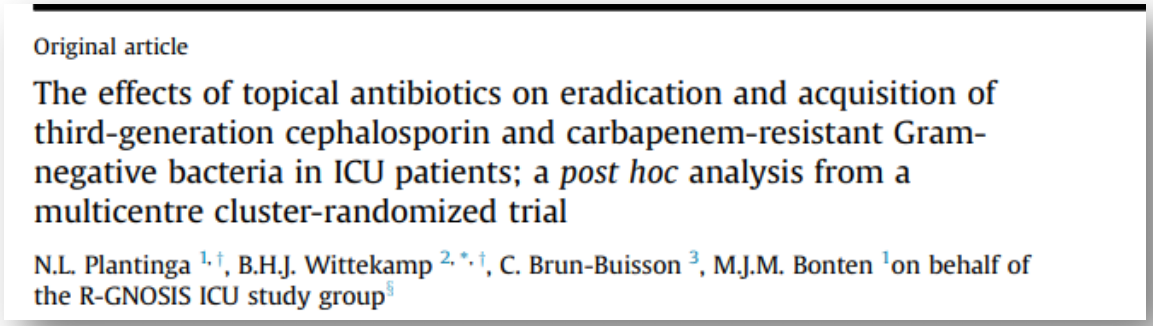
Abbreviation: CrI, credibility interval; non-EcE, non–*Escherichia coli* Enterobacteriaceae.

Données contradictoires

- En Europe: 2-6%
- Transmission croisée assez rare en Europe
- Mais associée à la pression de colonisation

Razazi ICM 2012 ,
Jolivet Journal of Hospital infection 2020

Autre intérêt



Original article

The effects of topical antibiotics on eradication and acquisition of third-generation cephalosporin and carbapenem-resistant Gram-negative bacteria in ICU patients; a *post hoc* analysis from a multicentre cluster-randomized trial

N.L. Plantinga [1,†], B.H.J. Wittekamp [2,*,†], C. Brun-Buisson [3], M.J.M. Bonten [1] on behalf of the R-GNOSIS ICU study group[§]

CMI CLINICAL MICROBIOLOGY AND INFECTION

ESCMID

- SDD* :moins d'acquisition et plus d'éradications dans les prélèvements respiratoires et de dépistage
- SOD* : moins d'acquisition et plus d'éradication dans les prélèvements respiratoires
- CHX 2% aucun effet

*colistin, tobramycin, and nystatin

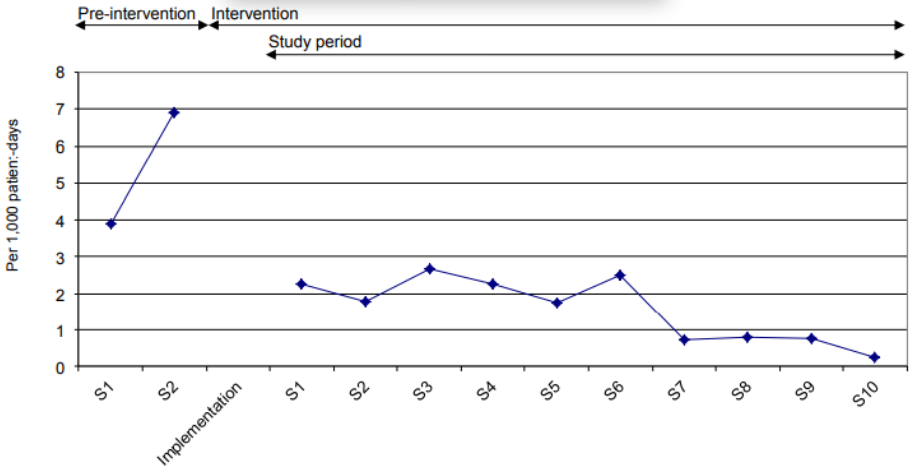
Suivre l'épidémiologie

Decline of multidrug-resistant Gram negative infections with the routine use of a multiple decontamination regimen in ICU

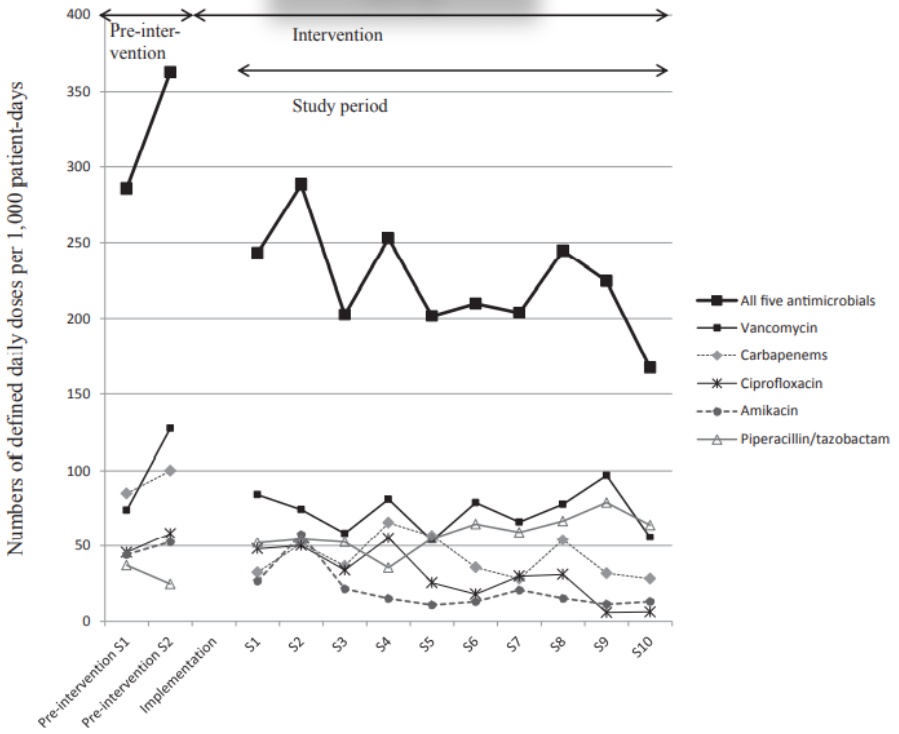
Christophe Camus [a,b,*], Elise Sauvadet [a], Aude Tavenard [b], Caroline Piau [c], Fabrice Uhel [a,b], Pierre Bouju [a], Julien Letheulle [a], Gilles Dollo [d], Arnaud Gacouin [a,b], Sylvain Lavoué [a], Yves Le Tulzo [a,b]

- Diminution de l'acquisition BLSE

Inf. Acquise à BMR



ATB



ESCMID PUBLICATIONS 10.1111/1469-0691.12427

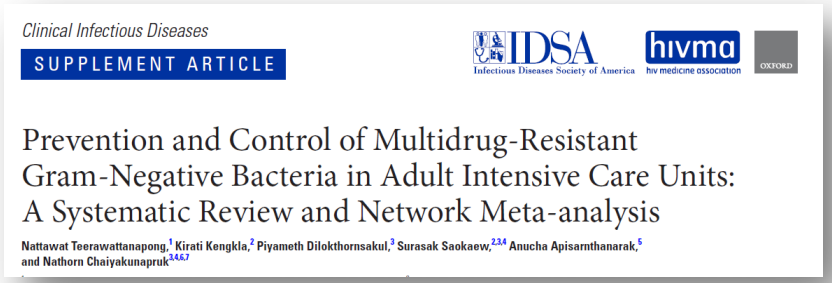
ESCMID guidelines for the management of the infection control measures to reduce transmission of multidrug-resistant Gram-negative bacteria in hospitalized patients

E. Tacconelli[1], M. A. Cataldo[2], S. J. Dancer[3], G. De Angelis[4], M. Falcone[5], U. Frank[6], G. Kahlmeter[7], A. Pan[8,9], N. Petrosillo[2], J. Rodríguez-Baño[10,11,12], N. Singh[13], M. Venditti[5], D. S. Yokoe[14] and B. Cookson[15]

Recommendations

Endemic setting

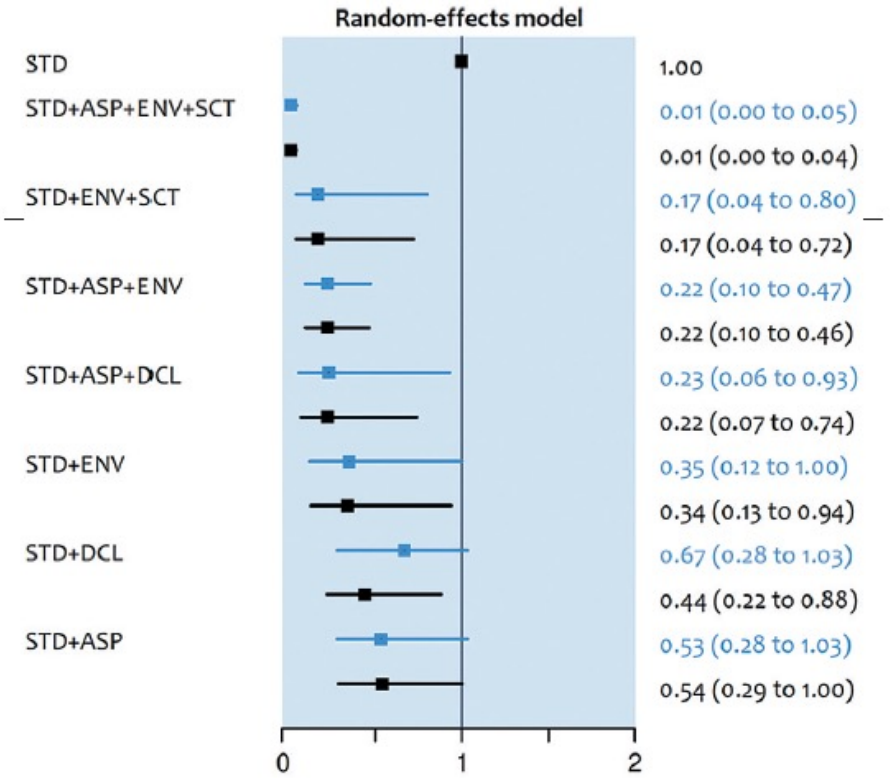
Strong recommendation: Implement contact precautions (CP) for all patients colonized with extended-spectrum β-lactamase (ESBL)-Enterobacteriaceae (with the exception of *Escherichia coli*), multidrug-resistant (MDR)–*Klebsiella pneumoniae*, MDR-*Acinetobacter baumannii*, and MDR-*Pseudomonas aeruginosa* (moderate level of evidence)



Effet additifs des mesures

Standard
+ environnement
+ toilette CHX
+ antibiotic stewardhip programme

MDR acquisition



En pratique

- Evolution vers uniquement des chambres seules en réa
- Pas de franche différence avec les précautions standards
- Choisir ses priorités
- Hygiène des mains ++
- Bundle de préventions des infections

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ICU Acquisition Rate, Risk Factors, and Clinical Significance of Digestive Tract Colonization With Extended-Spectrum Beta-Lactamase–Producing Enterobacteriaceae: A Systematic Review and Meta-Analysis*

Marios Detsis, MD, MPH; Styliani Karanika, MD; Eleftherios Mylonakis, MD, PhD

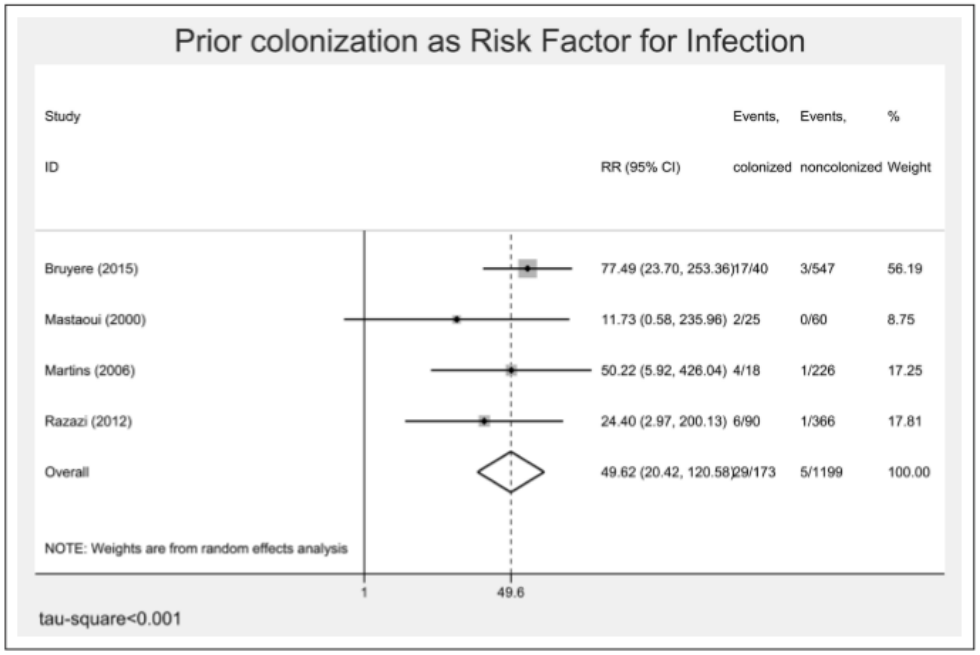
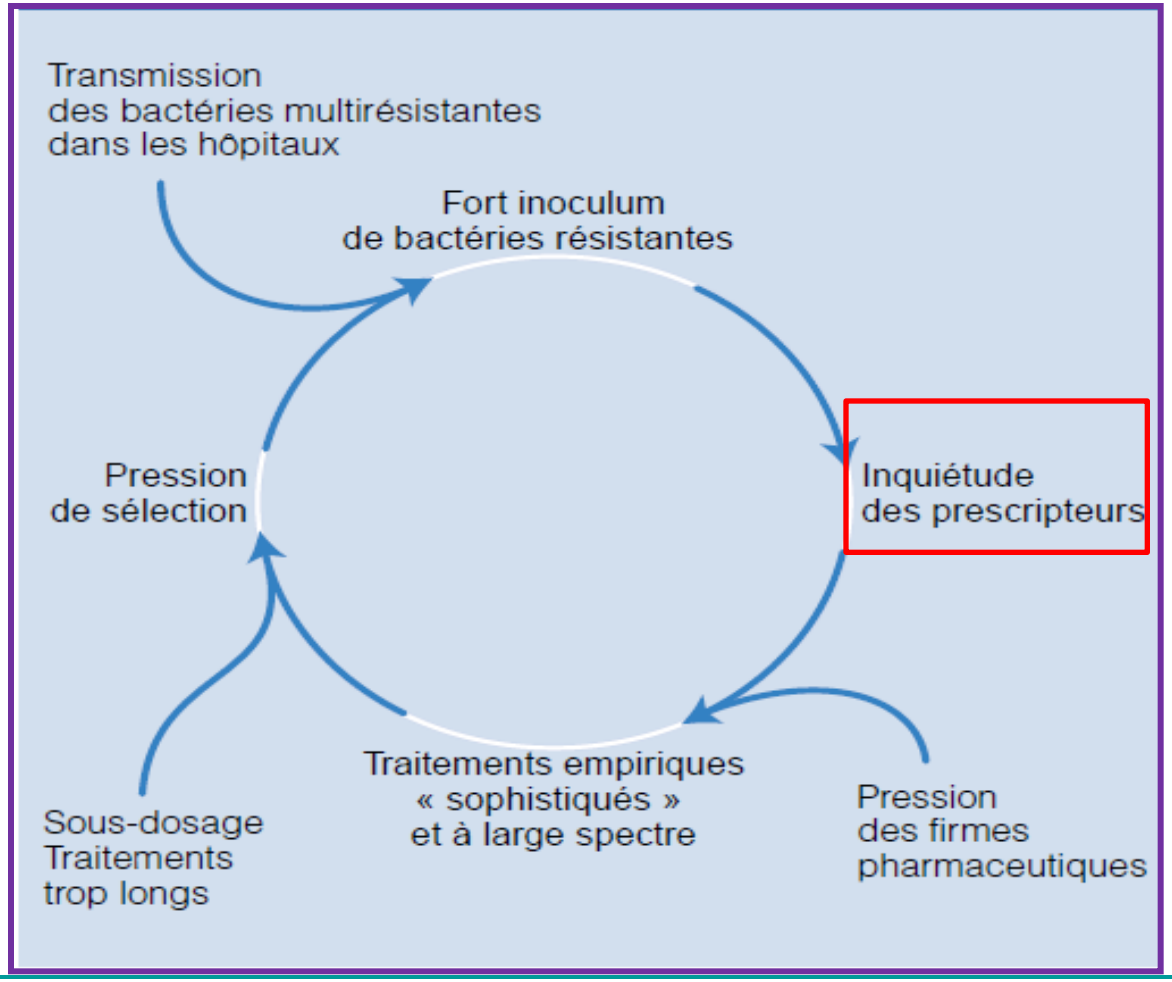


Figure 3. Forest plot of included studies. Relative risk (RR) estimates of extended-spectrum beta-lactamase–producing Enterobacteriaceae infection among colonized and noncolonized individuals.

OR = 50

Le cercle vicieux de la résistance bactérienne



Physiopathologie de l'infection à BMR

- La colonisation par les BMR est préalable à l'infection
- L'infection nécessite :
  - Une amplification du portage digestif (ie, abondance digestive)
  - Une exposition au risque (ie, des procédures)

- L'infection est un évènement rare, il ne survient que dans 10 -20% des cas au cours du séjour

Reddy *et al,* Clin Inf Dis 2007
Goulenok *et al,* J Hosp Inf 2013

A l’admission en réa

Evènement extrêmement rare

16734 patients entre 1996 et 2013

310 (2%) colonisés à BLSE

45 (0,2%) infections à BLSE à l'admission

Barbier Outcomerea JAC 2015

From May 1st 2009 to January 1st 2017, 8061 patients admitted in ICU

7212 (91%) without ESBL-PE carriage at ICU admission

745 (9.2%) ESBL-PE carriers at admission

336 patients without infection at ICU admission

395 patients with infection and ESBL-PE carriage at admission

14 transfers from another ICU (ESBL-PE related infection n=6)

336 (85%) patients with no ESBL-PE related infection

59 (15%) patients with ESBL-PE related infection

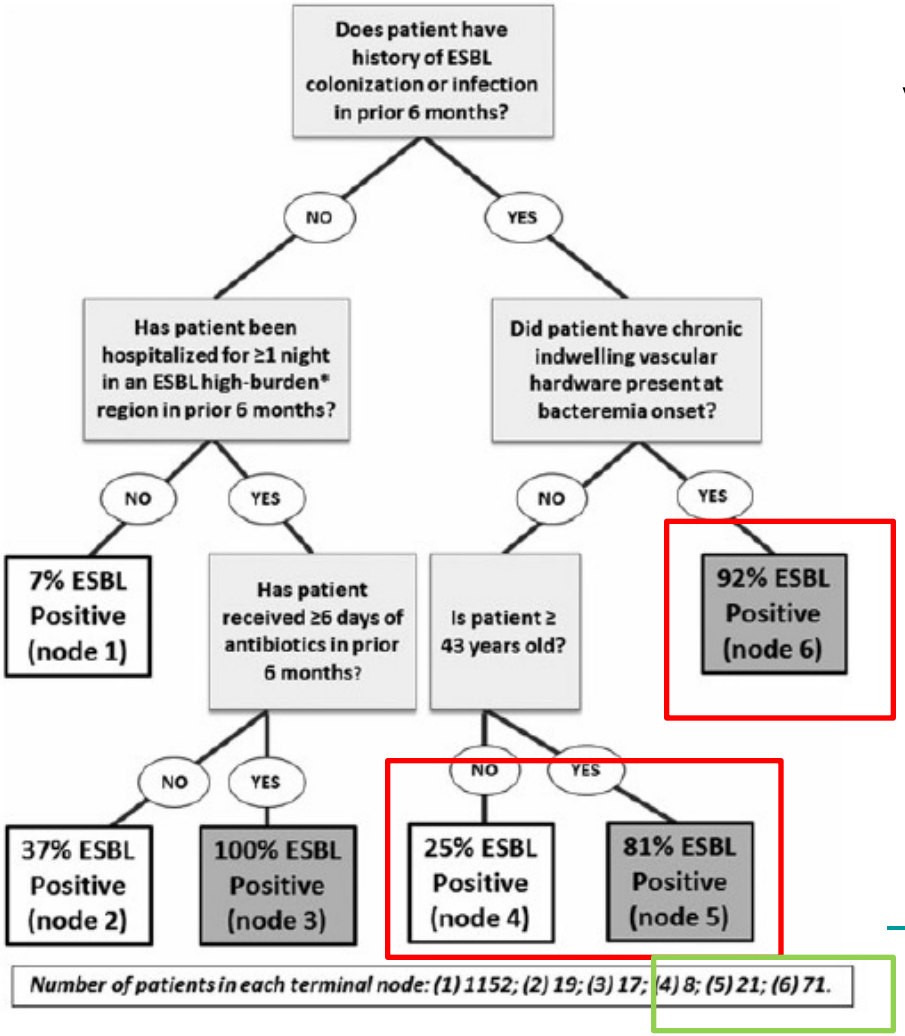
- 0,2% des admissions
- Colonisation connue chez 29% des infections à BLSE à l'admission

Razazi Journal of Infection 2020

A Clinical Decision Tree to Predict Whether a Bacteremic Patient Is Infected With an Extended-Spectrum β-Lactamase–Producing Organism

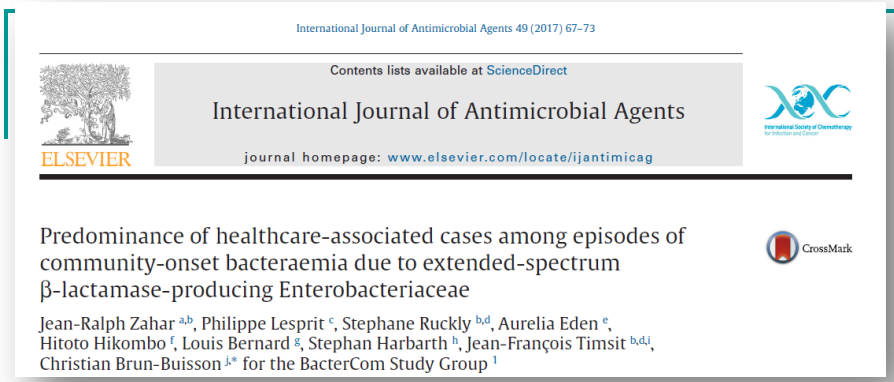
Katherine E. Goodman,[1] Justin Lessler,[1] Sara E. Cosgrove,[2] Anthony D. Harris,[3] Ebbing Lautenbach,[4] Jennifer H. Han,[4] Aaron M. Milstone,[5] Colin J. Massey,[6] and Pranita D. Tamma[5]; for the Antibacterial Resistance Leadership Group

- Monocentrique
- HC + à enterobactéries
- 15% BLSE



VPP 91%
VPN 92%

CID 2016



International Journal of Antimicrobial Agents 49 (2017) 67–73

Contents lists available at ScienceDirect

International Journal of Antimicrobial Agents

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

Predominance of healthcare-associated cases among episodes of community-onset bacteraemia due to extended-spectrum β-lactamase-producing Enterobacteriaceae

Jean-Ralph Zahar [a,b], Philippe Lesprit [c], Stephane Ruckly [b,d], Aurelia Eden [e], Hitoto Hikombo [f], Louis Bernard [g], Stephan Harbarth [h], Jean-François Timsit [b,d,i], Christian Brun-Buisson [j,*] for the BacterCom Study Group [1]

Colonisation connue chez très peu de patients

Clinical characteristics of patients with community-onset Enterobacteriaceae bacteraemia, contrasting healthcare-associated bloodstream infection (HCA-BSI) with truly community-acquired bloodstream infection (CA-BSI).

Variable [a]	Total ($N = 682$)	HCA-BSI		CA-BSI	
		ESBL-PE ($n = 36$)	Non-ESBL-PE ($n = 289$)	ESBL-PE ($n = 22$)	Non-ESBL-PE ($n = 335$)
Female sex	352 (51.6)	13 (36.1)	141 (48.8)	13 (59.1)	185 (55.2)
Age (years) [median (IQR)]	74.9 (61–84)	79.4 (62–88)	74.8 (64–85)	68.5 (48–82)	75 (61–83)
Native high-risk country	133 (19.5)	12 (33.3)	50 (17.3)	5 (22.7)	66 (19.7)
Living in low-risk country	669 (98.1)	35 (97.2)	285 (98.6)	22 (100)	327 (97.6)
Travel to high-risk country within 1 year	94 (13.8)	9 (25.0)	25 (8.7)	4 (18.2)	56 (16.7)
Known ESBL carriage	26 (3.8)	10 (27.8)	13 (4.5)	1 (4.5)	2 (0.6)
Prior antibiotic therapy within 1 year	237 (34.8)	28 (77.8)	124 (42.9)	8 (36.4)	77 (23.0)

Bactercom Zahar IJAA 2017

Au cours du séjour en réanimation

Intensive Care Med (2008) 34:675–682
DOI 10.1007/s00134-007-0953-z

ORIGINAL

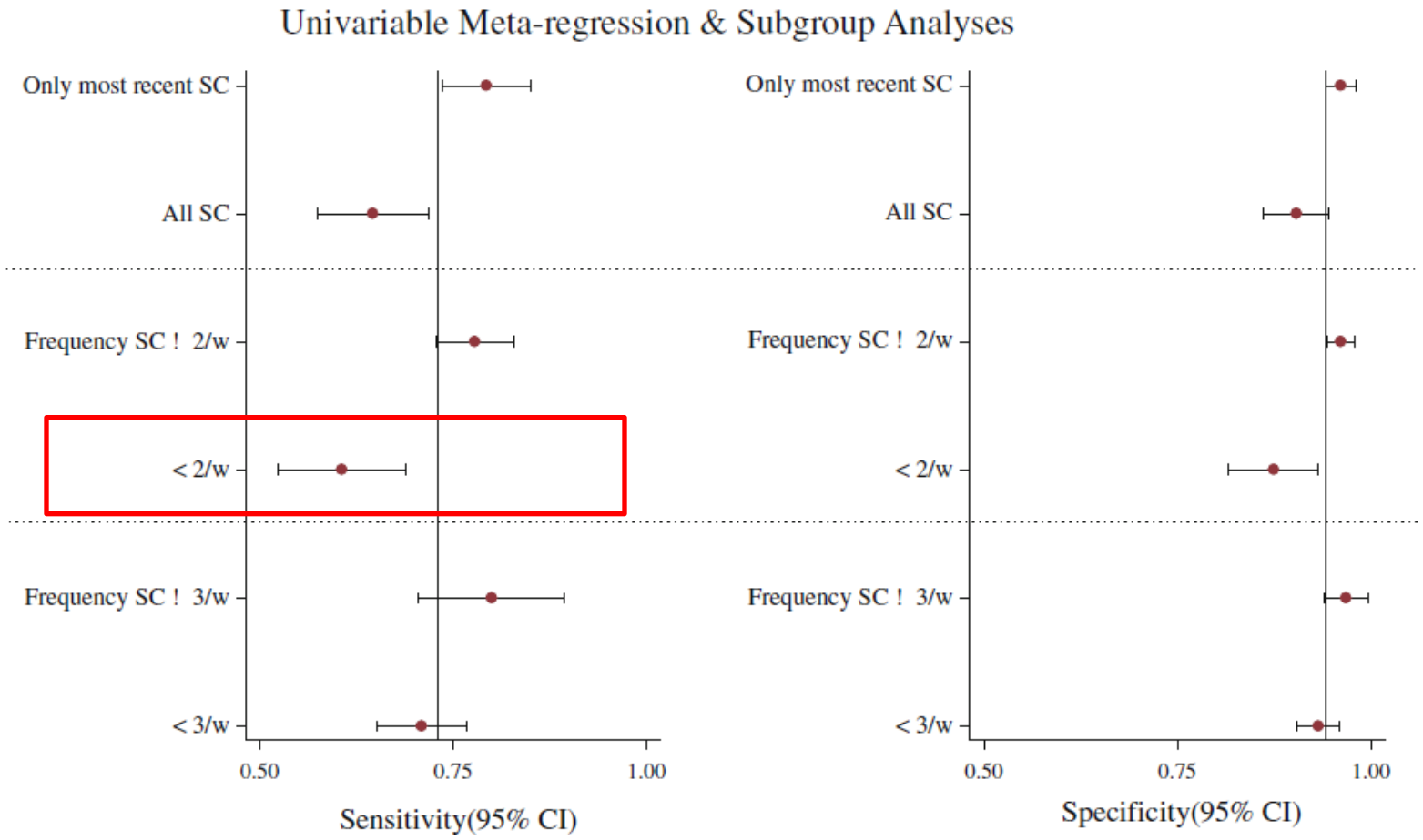
P. Depuydt
D. Benoit
D. Vogelaers
J. Decruyenaere
D. Vandijck
G. Claeys
G. Verschraegen
S. Blot

Systematic surveillance cultures as a tool to predict involvement of multidrug antibiotic resistant bacteria in ventilator-associated pneumonia

- Aspiration bronchique et ECBU trois fois /semaine
- Autre dépistage 1/semaine

	Early onset ($n=79$) No prior antibiotics ($n=28$)	Prior antibiotics ($n=51$)	Late onset ($n=120$)[a]	p[a]
MDR cause	4 (15%)	15 (29%)	67 (56%)	<0.001
SC available at diagnosis of VAP	1 (4%)	36 (71%)	114 (95%)	<0.001
MDR predicted by tracheal SC	1 (25%)	6 (40%)	50 (75%)	0.023
MDR predicted by any SC	1 (25%)	8 (53%)	58 (85%)	0.36
False MDR prediction by tracheal SC	0	0	6 (5%)	0.29
False MDR prediction by any SC	0	3 (8%)	11 (10%)	0.36

Sensibilité selon le nombre de prélèvements



Brusselaers ICM 2013

Relation colonisation-infection

RESEARCH ARTICLE

Relationship between digestive tract colonization and subsequent ventilator-associated pneumonia related to ESBL-producing Enterobacteriaceae

Marion Houard[1,2], Anahita Rouzé[1], Geoffrey Ledoux[1], Sophie Six[1,2], Emmanuelle Jaillette[1], Julien Poissy[1,2], Sébastien Préau[1], Frédéric Wallet[3], Julien Labreuche[4], Saad Nseir[1,2]*, Benoit Voisin[1]

Carbonne et al. Ann. Intensive Care (2017) 7:13
DOI 10.1186/s13613-017-0237-x

Annals of Intensive Care

RESEARCH Open Access

Relation between presence of extended-spectrum β-lactamase-producing *Enterobacteriaceae* in systematic rectal swabs and respiratory tract specimens in ICU patients

Hélène Carbonne[1,4*†], Matthieu Le Dorze[1*†], Anne-Sophie Bourrel[2], Hélène Poupet[2], Claire Poyart[2], Emmanuelle Cambau[3], Jean-Paul Mira[4], Julien Charpentier[4] and Rishma Amarsy[3,5]

European Journal of Clinical Microbiology & Infectious Diseases
https://doi.org/10.1007/s10096-019-03800-y

ORIGINAL ARTICLE

Check for updates

Incidence and risk factors for acquired colonization and infection due to extended-spectrum beta-lactamase-producing Gram-negative bacilli: a retrospective analysis in three ICUs with low multidrug resistance rate

Nicolas Massart[1,2] · Christophe Camus[1,2,3] · François Benezit[1,2,3] · Mikael Moriconi[4] · Pierre Fillatre[5] · Yves Le Tulzo[1,2,3]

Received: 22 October 2019 / Accepted: 17 December 2019

Significance of Prior Digestive Colonization With Extended-Spectrum β-Lactamase–Producing *Enterobacteriaceae* in Patients With Ventilator-Associated Pneumonia*

Rémi Bruyère, MD, MSc[1]; Clara Vigneron[1]; Julien Bador, MD[2]; Serge Aho, MD[3]; Amaury Toitot, MD[1]; Jean-Pierre Quenot, MD, PhD[1]; Sébastien Prin, MD[1]; Pierre Emmanuel Charles, MD, PhD[1]

VPP=30%(15-50%)

Elsa et al. Ann. Intensive Care (2020) 10:149
https://doi.org/10.1186/s13613-020-00754-9

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RESEARCH Open Access

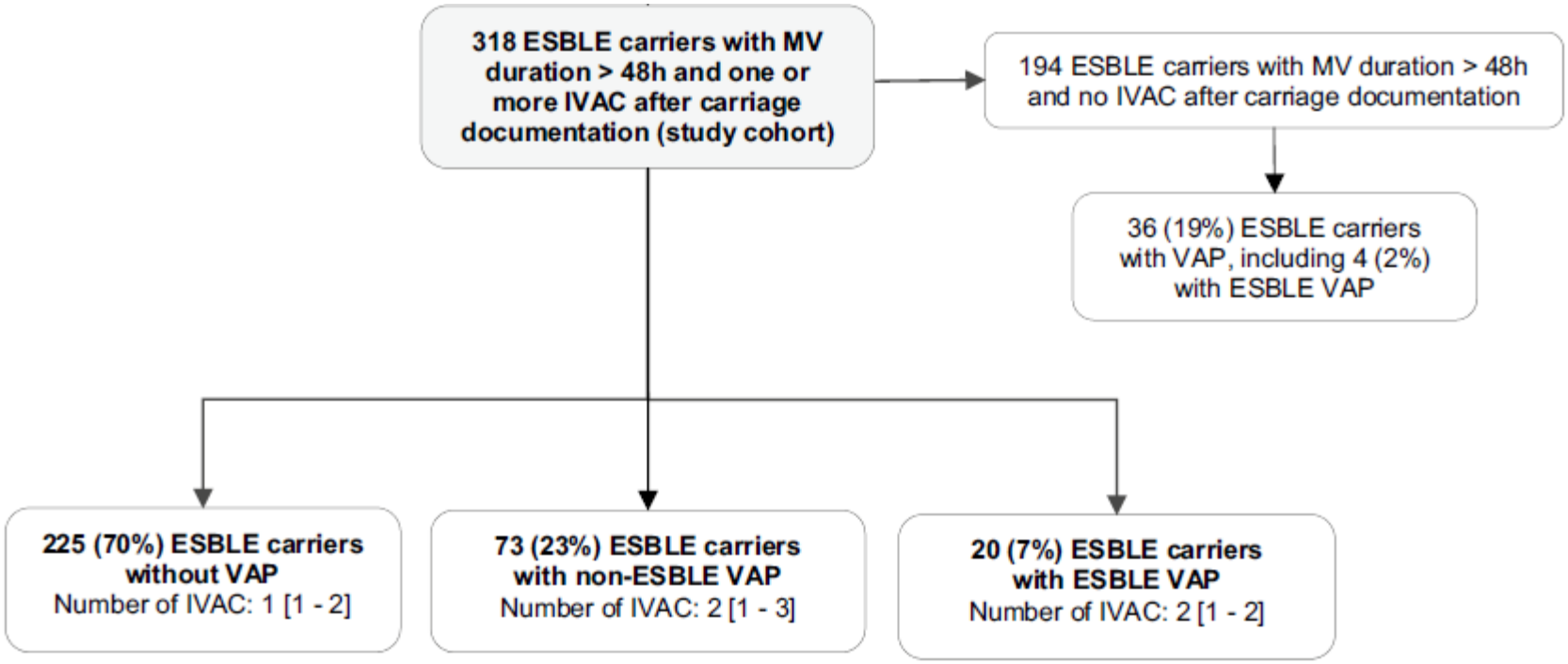
Impact of systematic screening for AmpC-hyperproducing *Enterobacterales* intestinal carriage in intensive care unit patients

Manquat Elsa[1*], Le Dorze Matthieu[1,5], Pean De Ponfilly Gauthier[2], Benmansour Hanaa[2], Amarsy Rishma[3], Cambau Emmanuelle[2,4], Soyer Benjamin[1], Chousterman Benjamin Glenn[1,5] and Jacquier Hervé[2,4]

ORIGINAL

Infection-related ventilator-associated complications in ICU patients colonised with extended-spectrum β-lactamase-producing Enterobacteriaceae

François Barbier[1], Sébastien Bailly[2], Carole Schwebel[3], Laurent Papazian[4], Élie Azoulay[5], Hatem Kallel[6], Shidasp Siami[7], Laurent Argaud[8], Guillaume Marcotte[9], Benoît Misset[10], Jean Reignier[11], Michaël Darmon[5], Jean-Ralph Zahar[12], Dany Goldgran-Toledano[13], Étienne de Montmollin[14], Bertrand Souweine[15], Bruno Mourvillier[16] and Jean-François Timsit[2,16*] for the OUTCOMEREA Study Group



J Antimicrob Chemother
doi:10.1093/jac/dkv423

Journal of Antimicrobial Chemotherapy

Colonization and infection with extended-spectrum β-lactamase-producing Enterobacteriaceae in ICU patients: what impact on outcomes and carbapenem exposure?

François Barbier[1], Cécile Pommier[2], Wafa Essaied[2], Maïté Garrouste-Orgeas[3], Carole Schwebel[4], Stéphane Ruckly[5], Anne-Sylvie Dumenil[6], Virginie Lemiale[7], Bruno Mourvillier[8], Christophe Clec'h[9], Michaël Darmon[10], Virginie Laurent[11], Guillaume Marcotte[12], Jean-Christophe Lucet[2,13], Bertrand Souweine[14], Jean-Ralph Zahar[15] and Jean-François Timsit[2,8*] on behalf of the OUTCOMEREA Study Group†

Consommation de carbapénème selon le statut « colonisé » ou infecté à BLSE

Antibiotique en DDJ	Non colonisés à BLSE	Colonisés à BLSE et non infectés	Infectés à BLSE	p
Carbapénème	69	241	627	<0,001

Barbier Outcomerea JAC 2015

Clinical Microbiology and Infection 24 (2018) 429.e7–429.e12

Contents lists available at ScienceDirect

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

Original article

Cessation of screening for intestinal carriage of extended-spectrum β-lactamase-producing *Enterobacteriaceae* in a low-endemicity intensive care unit with universal contact precautions

W. Jalalzaï [1], M. Boutrot [1], J. Guinard [2], A. Guigon [2], L. Bret [2], D.-M. Poisson [2], T. Boulain [1], F. Barbier [1,*]

Table 3
Carbapenem consumption according to extended-spectrum β-lactamase-producing *Enterobacteriaceae* status and study periods

	Carbapenem-days per 1000 patient-days		p value
	ASC period	No-ASC period	
All patients	81.5 (383/4823)	63.3 (355/5608)	0.03
No ICU-acquired ESBL-E infection			
Overall	75.0 (353/4705)	61.9 (315/5088)	0.01
No ESBL-E carriage	66.0[a] (281/4260)	—	—
ESBL-E carriage	161.8[a] (72/445)	—	—
ICU-acquired ESBL-E infection	339.0 (40/118)	273.1 (142/520)	0.15

Abbreviations: ASC, active surveillance culture; ESBL-E, extended-spectrum β-lactamase-producing *Enterobacteriaceae*; ICU, intensive care unit.

[a] $p < 0.0001$.

Table S7. Antimicrobial exposure during the ICU stay

Variables	Treatment-days per 1,000 patient-days		*P* value
	ASC period (N = 524)	No-ASC period (N = 545)	
Carbapenems	81.5 (383/4,823)	63.3 (355/5,608)	0.0003
Aminopenicillins	42.3 (204/4,823)	35.7 (200/5,608)	0.56
Aminopenicillins + beta-lactamase inhibitor	163.8 (790/4,823)	145.1 (814/5,608)	0.24
Carboxy- and ureidopenicillins	19.3 (93/4,823)	11.8 (66/5,608)	0.28
Carboxy- and ureidopenicillins + beta-lactamase inhibitor	124.6 (601/4,823)	115.0 (645/5,608)	0.53
Broad-spectrum cephalosporins [1]	299.8 (1,446/4,823)	198.8 (1,115/5,608)	<0.0001
Fluoroquinolones	25.9 (125/4,823)	65.4 (367/5,608)	<0.0001
Aminoglycosides	48.1 (232/4,823)	44.6 (250/5,608)	0.83
Glycopeptides	55.1 (266/4,823)	36.7 (206/5,608)	0.07

857 714

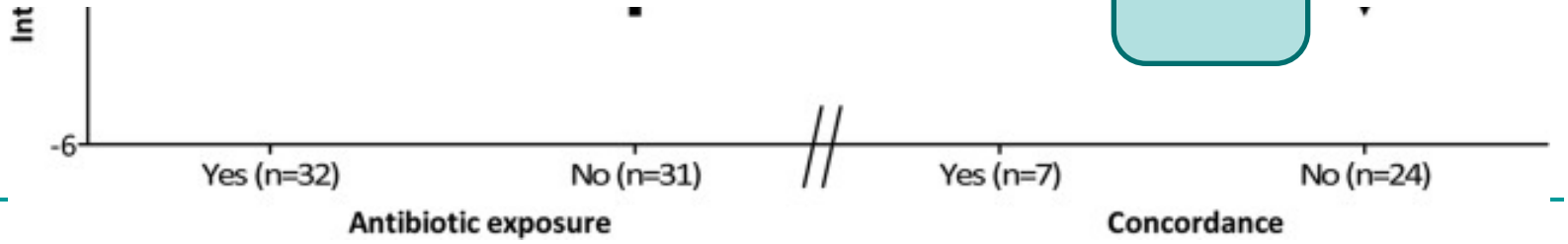
Comment améliorer la VPP ?

Abondance relative dans les selles

p<0.001[a] p<0.05[a]

TABLE 3 ESBL-RA as a predictor of UTI caused by ESBL *E. coli* for the 31 women not exposed to antibiotics

	Concordance determined according to[a]:			
ESBL-RA value (%)	Sens	Spec	PPV	NPV
10–100	0.57	0.77	0.57	0.88
1–10	0.57	0.61	0.33	0.84
0.1–1	0.86	0.45	0.35	0.93
0.01–0.1	1.00	0.10	0.26	1.00
0.001–0.01	1.00	0.03	0.23	1.00

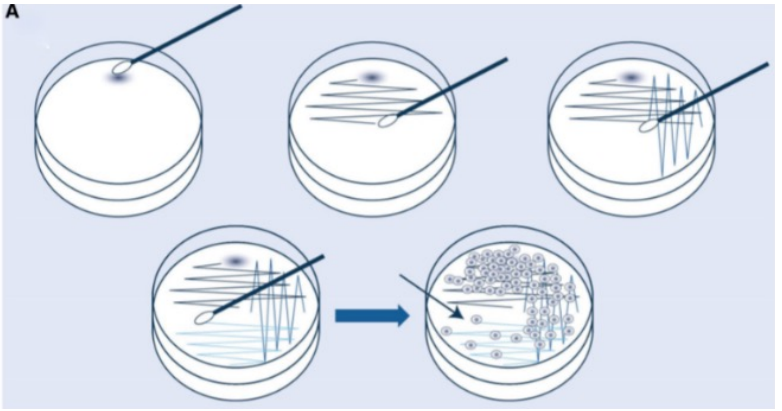


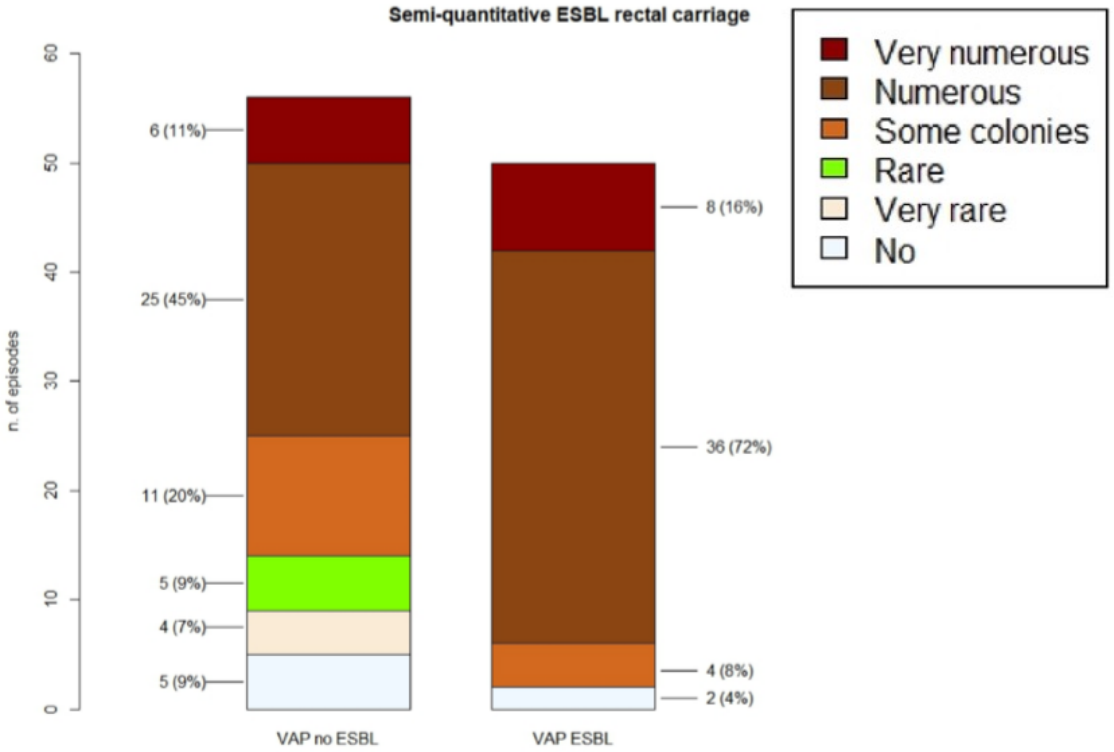
Ruppé *et al,* AAC 2013

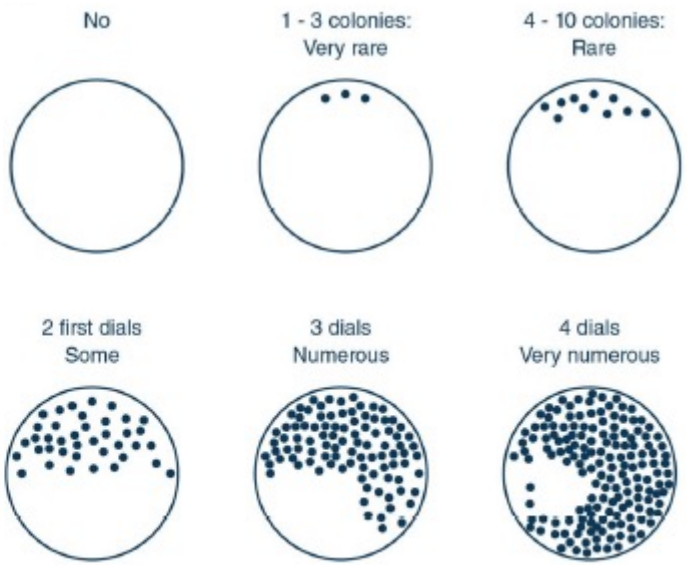
ORIGINAL

Semi-quantitative cultures of throat and rectal swabs are efficient tests to predict ESBL-*Enterobacterales* ventilator-associated pneumonia in mechanically ventilated ESBL carriers

Olivier Andremont[1], Laurence Armand-Lefevre[2,5], Claire Dupuis[1], Etienne de Montmollin[1,2], Stéphane Ruckly[4], Jean-Christophe Lucet[2], Roland Smonig[1], Eric Magalhaes[1], Etienne Ruppé[1,2,5], Bruno Mourvillier[1], Jordane Lebut[1], Mathilde Lermuzeaux[1], Romain Sonneville[1,3], Lila Bouadma[1,2] and Jean-François Timsit[1,2*] on behalf of the COMBACTE net consortium

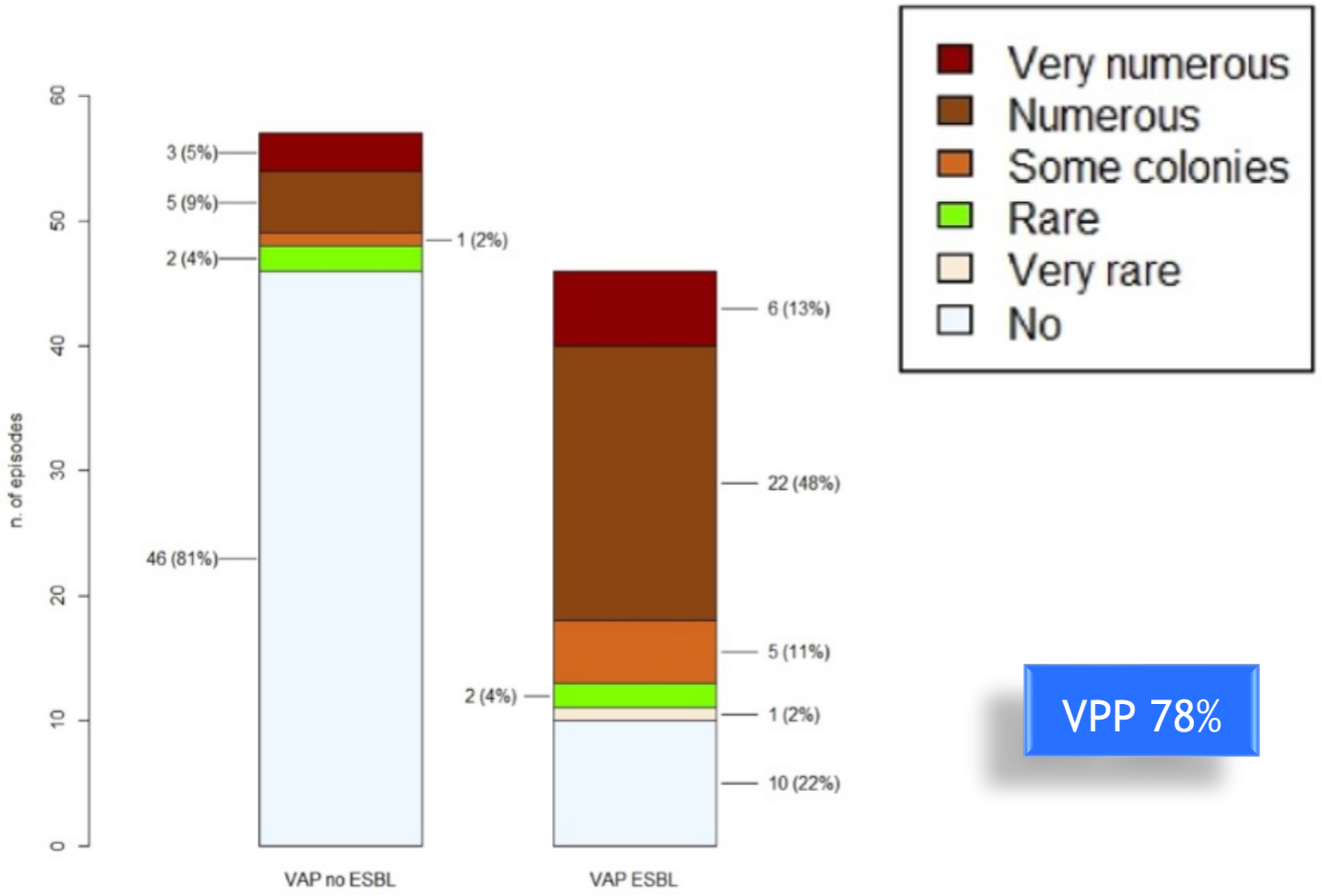






Colonisation rectale

Colonisation de gorge



VPP 78%

E. coli VS *E. cloacae / K. pneumonia*

Portage E. coli moins à risqué

Andremont ICM 2020, Razazi AOIC

VPP:

- ✓ *E. coli* =10%
- ✓ *E. cloacae/ K. pneumoniae* =55%

Relation colonisation-infection

RESEARCH ARTICLE

Relationship between digestive tract colonization and subsequent ventilator-associated pneumonia related to ESBL-producing Enterobacteriaceae

Marion Houard[1,2], Anahita Rouzé[1], Geoffrey Ledoux[1], Sophie Six[1,2], Emmanuelle Jaillette[1], Julien Poissy[1,2], Sébastien Préau[1], Frédéric Wallet[3], Julien Labreuche[4], Saad Nseir[1,2]*, Benoit Voisin[1]

Carbonne et al. Ann. Intensive Care (2017) 7:13
DOI 10.1186/s13613-017-0237-x

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Relation between presence of extended-spectrum β-lactamase-producing *Enterobacteriaceae* in systematic rectal swabs and respiratory tract specimens in ICU patients

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European Journal of Clinical Microbiology & Infectious Diseases
https://doi.org/10.1007/s10096-019-03800-y

resistance rate

Nicolas Massart[1,2] · Christophe Camus[1,2,3] · François Benezit[1,2,3] · Mikael Moriconi[4] · Pierre Fillatre[5] · Yves Le Tulzo[1,2,3]

Received: 22 October 2019 / Accepted: 17 December 2019

En réanimation, un dépistage rectal négatif datant de moins d'une semaine a une forte valeur prédictive négative d'infection à EBLSE

Extended-Spectrum β-Lactamase–Producing *Enterobacteriaceae* in Patients With Ventilator-Associated Pneumonia*

Rémi Bruyère, MD, MSc[1]; Clara Vigneron[1]; Julien Bador, MD[2]; Serge Aho, MD[3]; Amaury Toitot, MD[1]; Jean-Pierre Quenot, MD, PhD[1]; Sébastien Prin, MD[1]; Pierre Emmanuel Charles, MD, PhD[1]

VPP=30%(15-50%)

VPN du portage rectal >95%

Elsa et al. Ann. Intensive Care (2020) 10:149
https://doi.org/10.1186/s13613-020-00754-9

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Nouveaux outils

REVIEW

Rationalizing antimicrobial therapy in the ICU: a narrative review

Jean-François Timsit[1,2*], Matteo Bassetti[3], Olaf Cremer[4], George Daikos[5], Jan de Waele[6], Andre Kallil[7], Eric Kipnis[8], Marin Kollef[9], Kevin Laupland[10], Jose-Artur Paiva[11], Jesús Rodríguez-Baño[12], Étienne Ruppé[2,13], Jorge Salluh[14], Fabio Silvio Taccone[15], Emmanuel Weiss[16,17] and François Barbier[18]

Table 3 New diagnostic tools for bacterial infection in critically ill patients

Method	Based on	Available	Pros	Cons
Direct AST	Culture	Yes	Cheap Decreases TAT by 24 h	Lacks standardization Does not work for polymicrobial infection
Accelerate Pheno™	Culture	Yes	Faster than conventional methods Automatized 1 h for identification, 6–8 h for AST	Expensive Low throughput For positive blood cultures only
Lab automation	Culture	Yes	Real-time culturing decreasing TAT	Integration with stewardship Cost Exploitation of results outside working hours
Syndromic tests	PCR	Yes	Fast (TAT 1–8 h) Minimal hands-on time	Expensive Not exhaustive Minimal information on antibiotic resistance
Clinical metagenomics	NGS	In development	Exhaustive Potentially fast Host response	Experimental Interpretation of results Expensive

AST antimicrobial susceptibility testing, *TAT* turnaround time, *NGS* next-generation sequencing

Dépistage:

- Connaitre et s'adapter à l'épidémiologie de son service
- Différence *E. coli* VS *E. cloacae / K. pneumonia*
- Suivre les effets d'une intervention
- Ne doit pas être la seule mesure pour lutter contre l'acquisition de BLSE
- Ne permettra pas une baisse de la consommation de carbapénème