Best of 2017

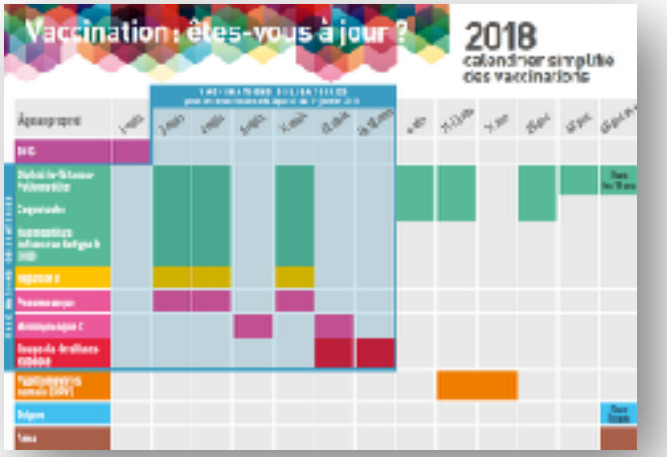
Vincent DUBEE - Séverine ANSART
Maladies Infectieuses et Tropicales – CHU d'Angers
- CHRU de Brest

GERICCO, Quimper, 22 & 23 Mars 2018

Les évènements 2017 !

SPILF; IDSA; ASCO; ISTM; AFEF; SFMU; SFORL

Le DES !!!



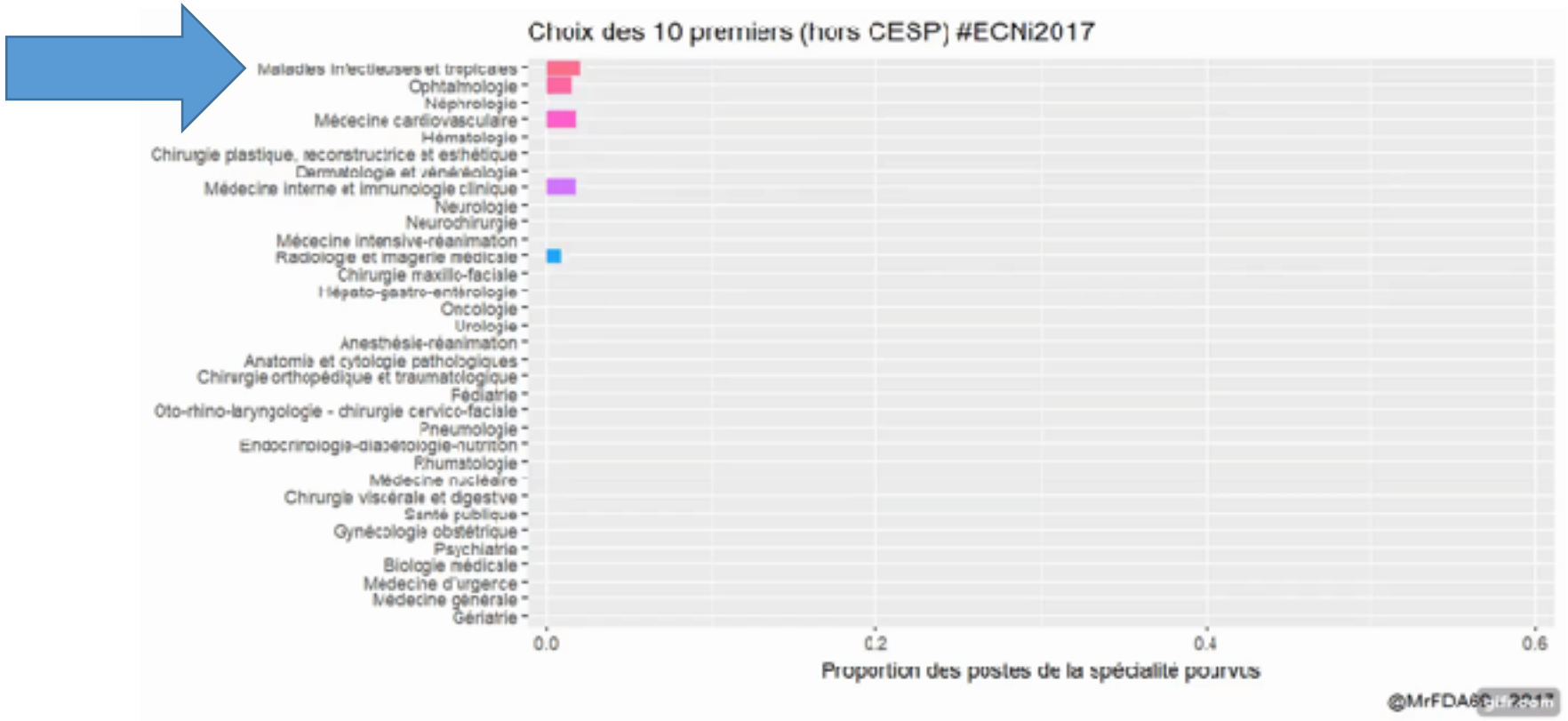
Un infectiologue nommé DG de la Santé

La Place de l'infectiologie dans le service sanitaire

Les évènements 2017 !

SPILF; IDSA; ASCO; ISTM; AFEF; SFMU; SFORL

Le DES !!!



Les nouvelles recommandations

SPILF; IDSA; ASCO; ISTM; AFEF; SFMU; SFORL

Prise en charge et prévention du paludisme d'importation

Mise à jour 2017 des RPC 2007

Plaies aiguës en structure d'urgence

Antibioprophylaxie en chirurgie et médecine interventionnelle. (patients adultes)

Guidelines on the management of infectious encephalitis in adults

IDSA GUIDELINE

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

IDSA GUIDELINE

Diagnosis and Treatment of Neurocysticercosis: 2017 Clinical Practice Guidelines by the Infectious Diseases Society of America (IDSA) and the American Society of Tropical Medicine and Hygiene (ASTMH)

ASCO Clinical Practice Guideline

Outpatient Management of Fever and Neutropenia in Adults Treated for Malignancy: American Society of Clinical Oncology and Infectious Diseases Society of America Clinical Practice Guideline Update

Recommandations SFORL 2017

AINS et infections ORL pédiatriques

World Health Organization

World Health Organization treatment guidelines for drug-resistant tuberculosis, 2016 update

AFEF

RECOMMANDATIONS AFEF POUR L'ÉLIMINATION DE L'INFECTION PAR LE VIRUS DE L'HÉPATITE C EN FRANCE

Journal of Travel Medicine

Guidelines for the prevention and treatment of travelers' diarrhea: a graded expert panel report

Mark S. Riddle[1*†], Bradley A. Connor[2*†], Nicholas J. Beeching[3], Herbert L. DuPont[4], Davidson H. Hamer[5], Phyllis Kozarsky[6], Michael Libman[7], Robert Steffen[8], David Taylor[9], David R. Tribble[10], Jordi Vila[11], Philipp Zanger[12], and Charles D. Ericsson[12]

Diagnostic et antibiothérapie des infections urinaires bactériennes communautaires de l'adulte

Actualisation 2017 des recommandations de 2014

ESCMID

Diagnosis and management of *Aspergillus* diseases: executive summary of the 2017 ESCMID-ECMM-ERS guideline

Au menu

Des grandes épidémies

Du nouveau dans les infections bactériennes

Des nouveautés en thérapeutiques

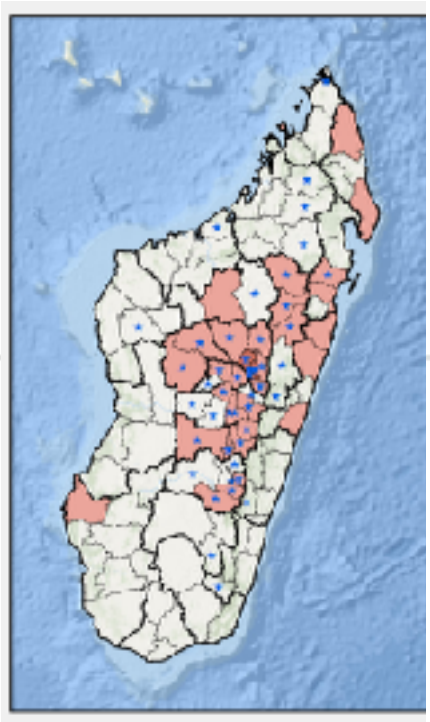
Clostridium difficile et transplantation fécale

De « nouveaux » pathogènes

IST

Les grandes épidémies de 2017

Epidémie de peste à Madagascar

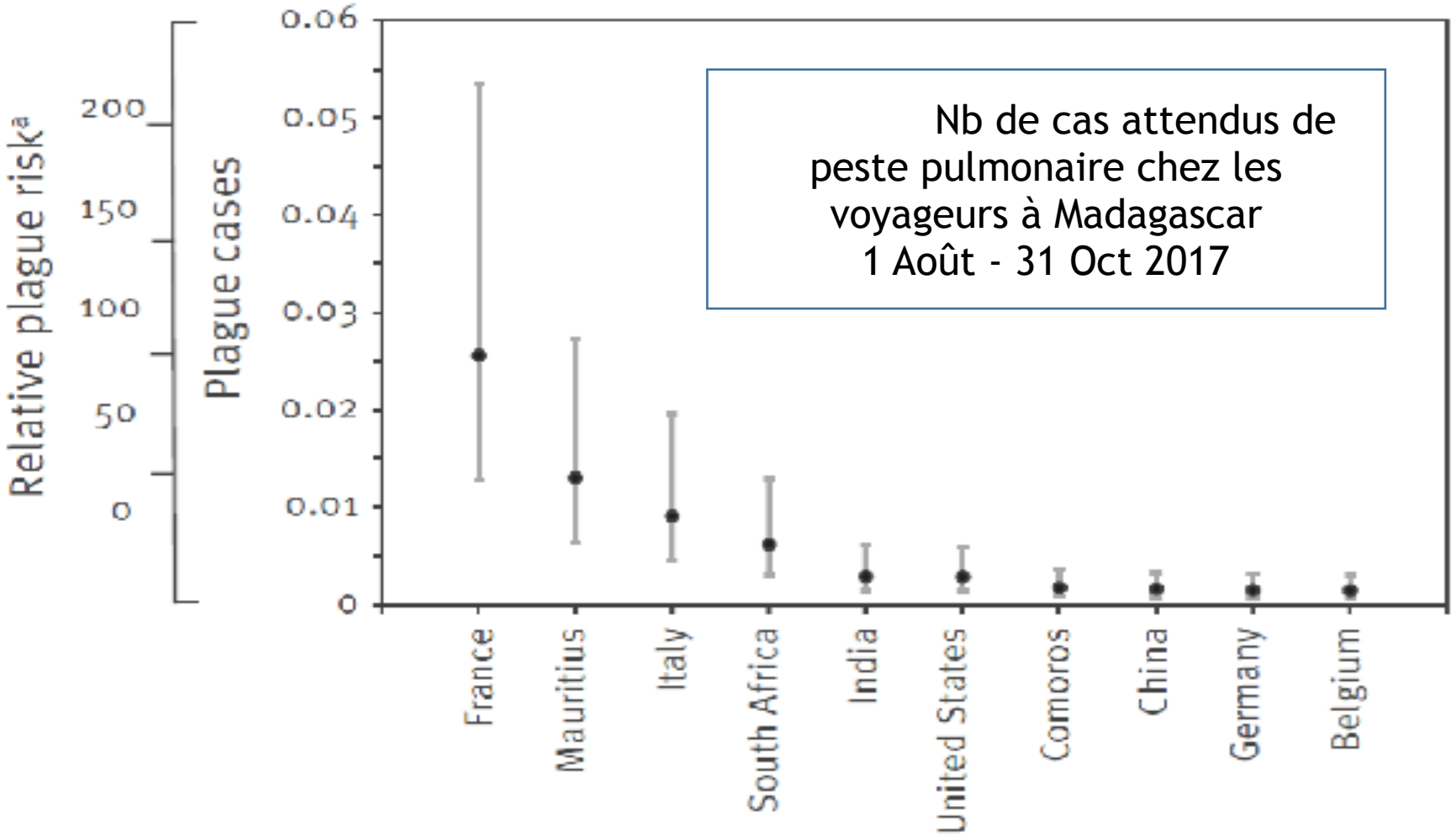


2348 cas confirmés
Mortalité 8,6%
76% forme pulmonaire

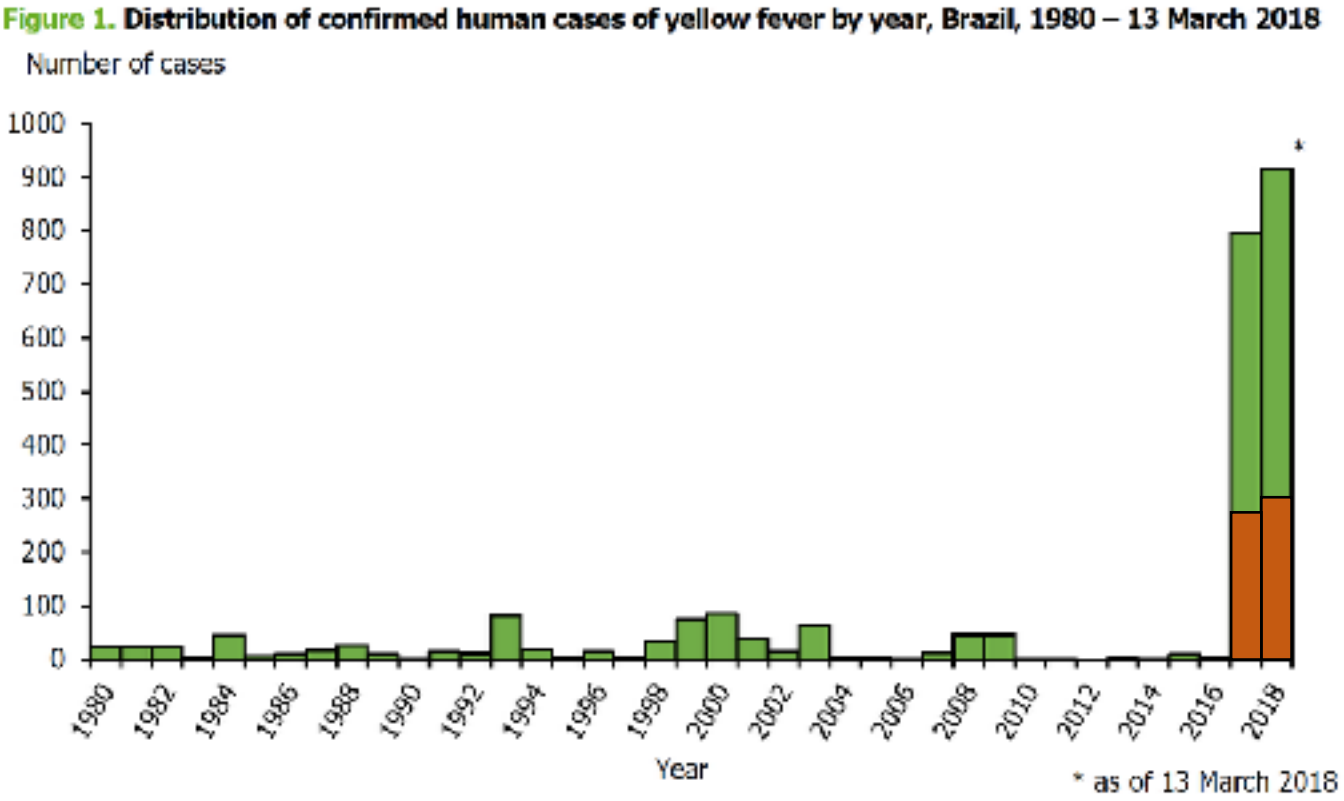
Tsuzuki S *et al*, Eurosurveillance 2017
http://www.who.int/csr/don/27-november-2017-plague-madagascar/en/

Epidémie de peste à Madagascar

- Potentiel épidémique : R0 = 1,12 – 1,72



Epidémie de fièvre jaune au Brésil



Mortalité 30%

Cycle sylvatique (singe – moustique – humain)
Pas de cycle urbain (homme – moustique – homme) détecté
Janvier 2018 : détection du virus chez *Aedes albopictus* (compétence ?)

Source: ECDC

Epidémie de fièvre jaune au Brésil

Confirmed cases of locally-acquired yellow fever, as of 05 March 2018

States with confirmed locally-acquired cases since July 2017

Area at risk for yellow fever transmission

Area considered at no risk for yellow fever transmission

Federal state

Probable place of infection–European travellers

ECDC. Map produced on: 08 Mar 2018

ECDC map maker: https://ermm.ecdc.europa.eu

	Population (millions)	Couverture vaccinale
São Paulo	11	69%
Rio de Janeiro	6	54%
Minas Gerais	21	82%

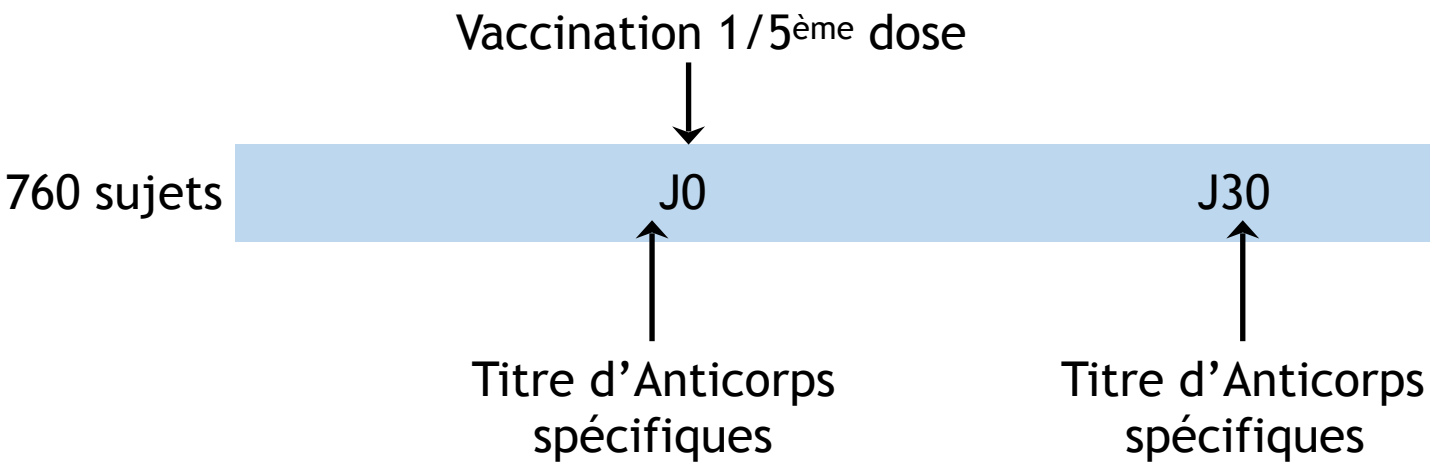
Epidémie de fièvre jaune au Brésil

Vaccination fièvre jaune

Immunogenicity of Fractional-Dose Vaccine during a Yellow Fever Outbreak — Preliminary Report
Ahuka-Mundeke S *et al*, NEJM 2018

2016 : Epidémie en RDC
Campagne vaccinale ciblée sur 7,6 millions de sujets en 10 jours
Pénurie de vaccins
Vaccination avec 1/5ème dose standard (0,1 ml)

Objectif : évaluer la réponse immunitaire



Vaccination fièvre jaune

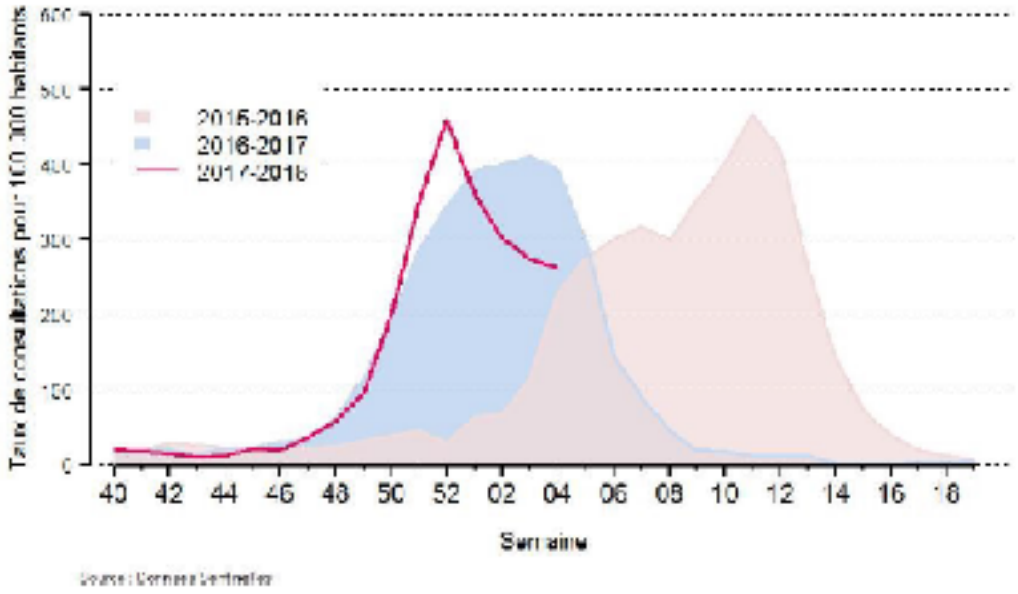
Immunogenicity of Fractional-Dose Vaccine during a Yellow Fever Outbreak — Preliminary Report
Ahuka-Mundeke S *et al*, NEJM 2018

		Séroconversion (%)	Remarque
1/5ème dose	Patients séronégatif à J0	98%	Obtention d'un taux d'Ac protecteur
	Patients séropositifs à J0	66%	Taux d'Ac x ≥ 4
Dose standard	Patients séronégatifs	98%	Données de la littérature

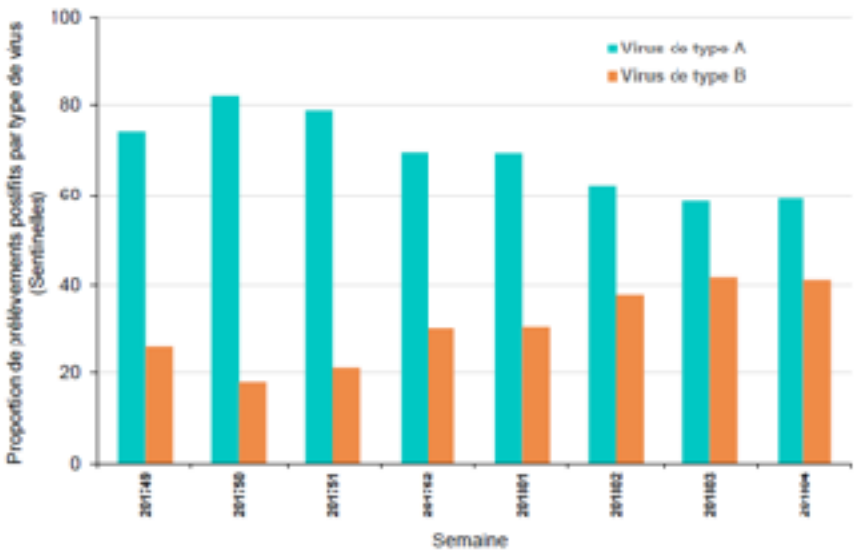
Limites
Critère de jugement principal biologique
Pas de monitoring des effets indésirables
Durabilité de la réponse immune ?

La grippe 2017 - 2018

Le marronnier !
Plus ou moins de morts que l'année dernière ?
Quel virus prédominant ?
Quelle était l'efficacité vaccinale ?



Consultations pour syndrome grippal



Type de virus (saison 2017-2018)

La grippe 2017 - 2018

CHRISTMAS 2017: ALL CREATURES GREAT AND SMALL

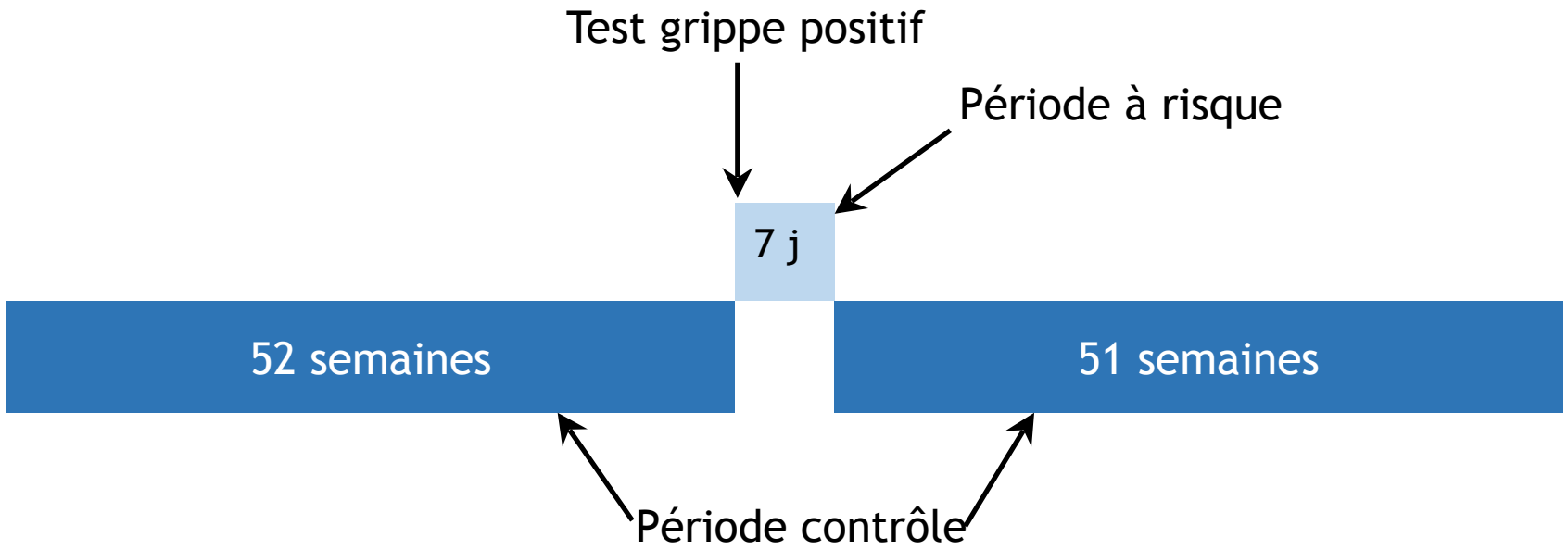
The science behind “man flu”

Kyle Sue explores whether men are wimps or just immunologically inferior

Complications de la grippe

Acute Myocardial Infarction after Laboratory-Confirmed Influenza Infection
Kwong JC et al, NEJM 2018

Rétrospectif (Ontario) mai 2008-mai 2015
Réseau de 19 laboratoires
Données de codage
Inclus : tous les patients qui ont eu une recherche de grippe ET qui ont été hospitalisés pour IDM



Complications de la grippe

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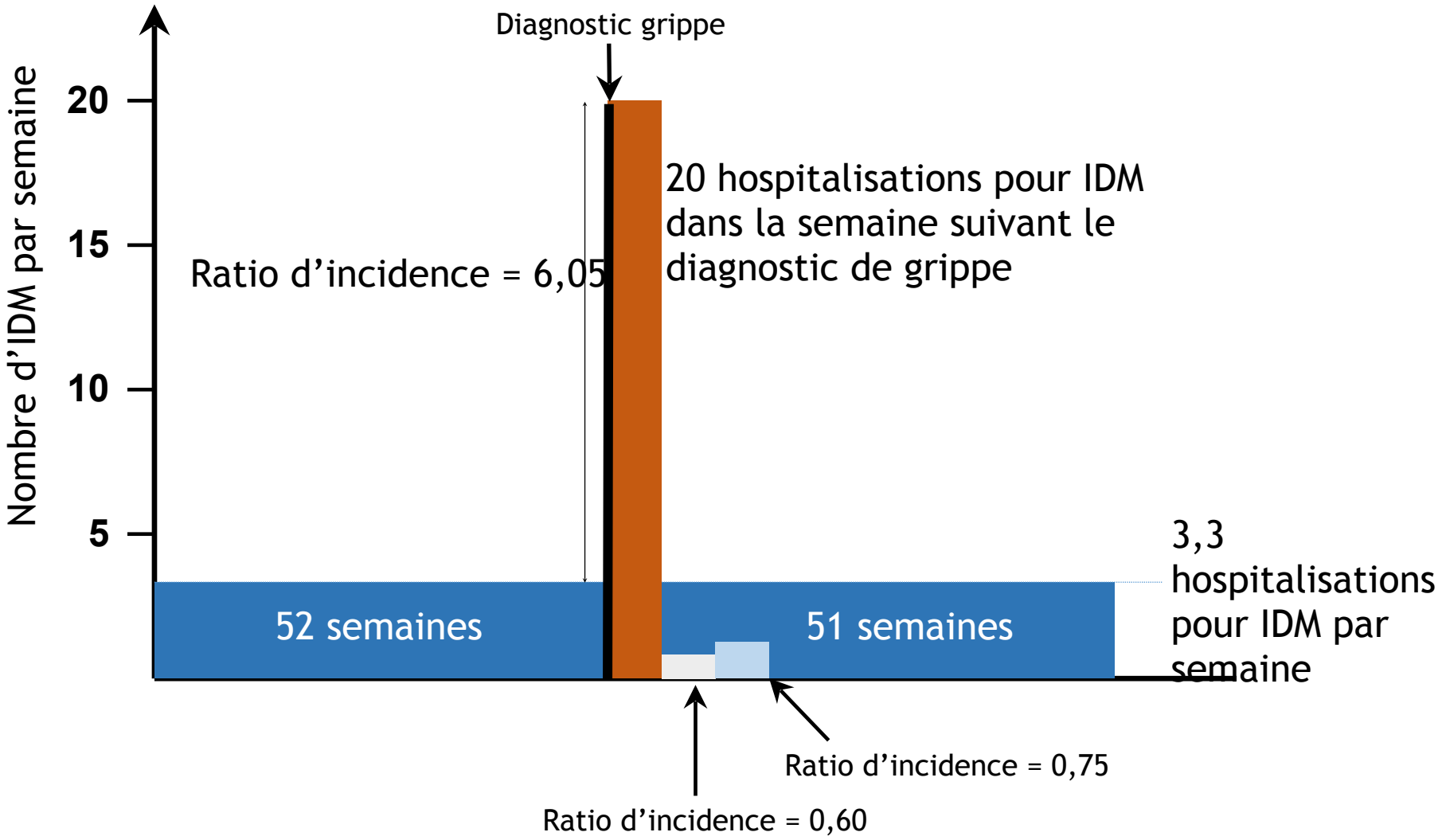

Complications de la grippe

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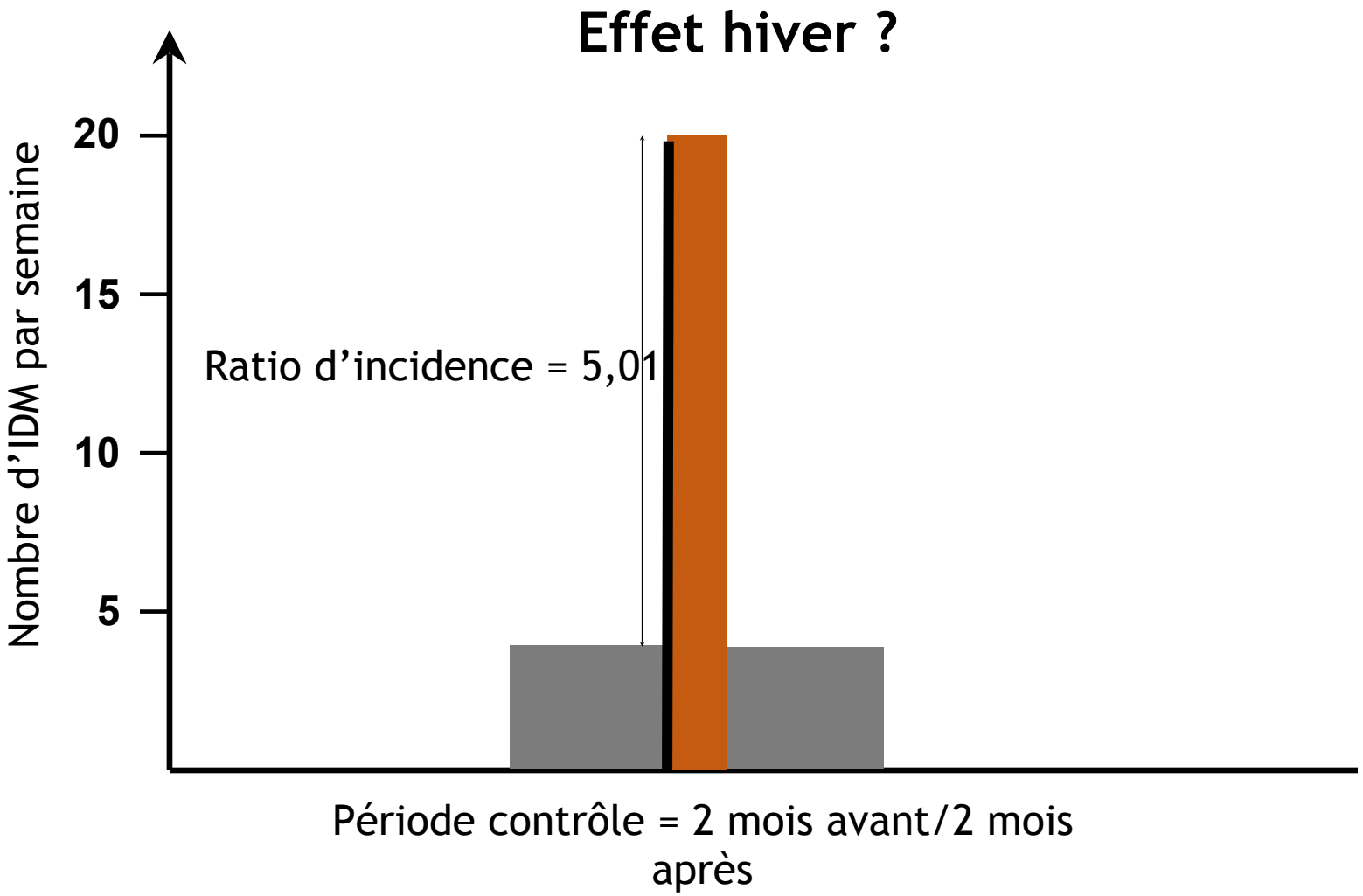
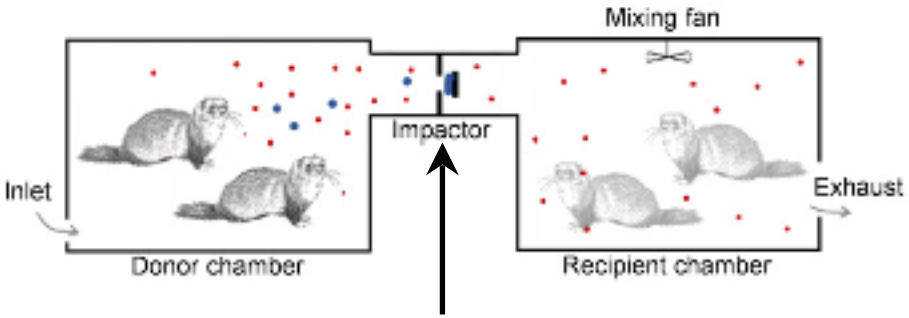


Transmission de la grippe

Defining the sizes of airborne particles that mediate influenza transmission in ferrets
Zhou J *et al*, PNAS 2018



Filtre les particules
selon leur taille

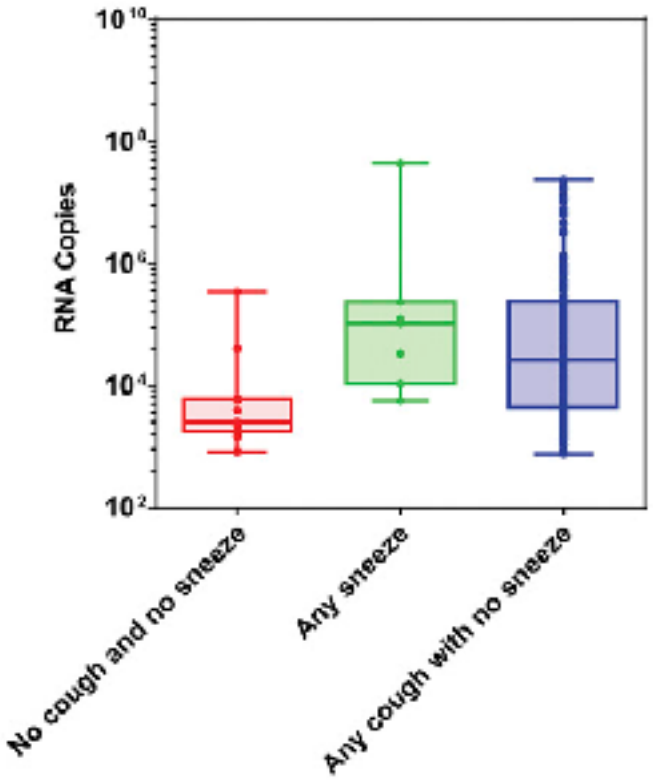
Infectious virus in exhaled breath of symptomatic seasona influenza cases from a college community
Yan J *et al*, PNAS 2018

142 cas de grippe confirmée

Gesundheit II machine

30 minutes dans la machine
Respiration normale
Récitation de l'alphabet x 2

Transmission de la grippe



Facteurs associés à une excrétion virale plus importante

- BMI élevé
- Vaccination antigrippale au cours des 2 années précédentes
- Toux plus fréquente

Présence de génome viral/virus infectants dans des particules entre 1 et 5 µm
Excrétion virale (RNA et virus infectants) même en l'absence de toux/éternuemer
Effet de la parole ?

Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community
Yan J *et al*, PNAS 2018

Efficacité vaccinale

Interim 2017/18 influenza seasonal vaccine effectiveness: combined results from five European studies

Rondy M *et al*, Eurosurveillance 2018

		Efficacité vaccinale (%)	
	Proportion	Tous âges	> 65 ans
A (H1N1)	20%	68	37
A (H3N2)	10-15%	-16	-1
B	65%	39	54
A + B		38	44

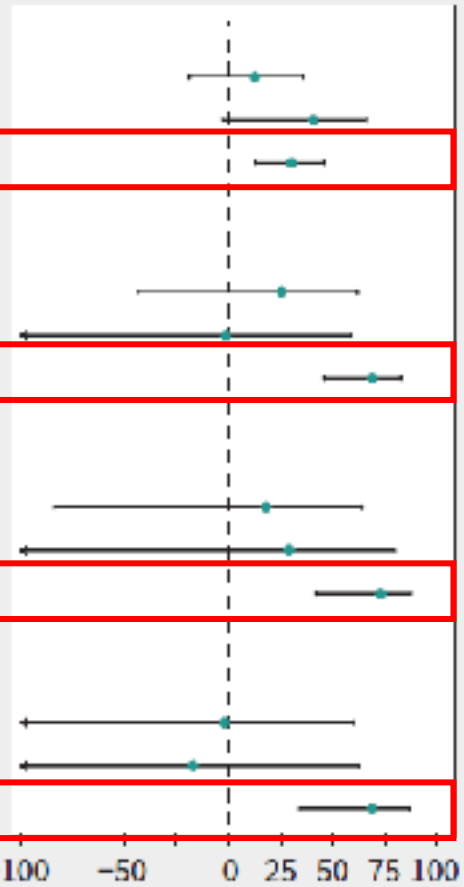
Vaccin 2017/2018 hémisphère Nord
A/Michigan/45/2015 (H1N1)pdm09
A/Hong Kong/4801/2014 (H3N2)
B/Brisbane/60/2008 (B/Victoria)
Quadrivalent : +B/Phuket/3073/2013 (B/Yamagata)

Efficacité de la vaccination

Repeated influenza vaccination for preventing severe and fatal influenza infection in older adults: a multicentre case–control study

Casado I *et al*, CMAJ 2018

	No. of patients no. of controls	Adjusted vaccination effectiveness, % (95% CI)
Nonsevere influenza		
Unvaccinated	189 / 418	Reference
No current + any previous season	97 / 213	13 (−19 to 36)
Current + no previous season	21 / 67	41 (−3 to 66)
Current + any previous season	291 / 795	31 (13 to 46)
Severe influenza		
Unvaccinated	58 / 92	Reference
No current + any previous season	25 / 50	26 (−44 to 62)
Current + no previous season	10 / 18	−1 (−148 to 59)
Current + any previous season	37 / 173	70 (46 to 83)
Intensive care unit admission		
Unvaccinated	40 / 65	Reference
No current + any previous season	16 / 33	19 (−84 to 64)
Current + no previous season	4 / 11	30 (−151 to 80)
Current + any previous season	17 / 93	74 (42 to 88)
30-d mortality		
Unvaccinated	32 / 55	Reference
No current + any previous season	19 / 27	−2 (−162 to 60)
Current + no previous season	7 / 13	−16 (−257 to 63)
Current + any previous season	25 / 122	70 (34 to 87)



Etude cas - témoins, Espagne

Recueil du statut vaccinal sur la saison en cours (2013-14 & 2014-15)

ET sur les 3 saisons précédentes

Effets de la vaccination anti-grippale

Effect of Influenza Vaccination Against Postoperative Pneumonia and Mortality for Geriatric Patients Receiving Major Surgery: A Nationwide Matched Study

Liu WC *et al*, Journal of Infectious Diseases 2018

Etude rétrospective, Taiwan
> 66 ans
Vaccinés opérés vs non vaccinés opérés
Score de propension

Table 2. Postoperative Outcomes of Older Pa

Postoperative Outcome	No Vaccination (n = 16903) Patients With Outcome, No. (%)	Vaccination (n = 16903) Patients With Outcome, No. (%)	OR (95% CI)[a]
30-d in-hospital mortality	381 (2.25)	178 (1.05)	0.46 (.38–.55)
Pneumonia	2675 (15.83)	1766 (10.45)	0.60 (.56–.64)
ICU stay	4039 (23.89)	2885 (17.07)	0.56 (.53–.60)
	Value, Mean ± SD	Value, Mean ± SD	*P*
Length of stay, d	12.87 ± 28.83	10.30 ± 12.22	<.0001
Medical expenditure, US$	4235 ± 5309	3692 ± 4276	<.0001

Abbreviations: CI, confidence interval; ICU, intensive care unit; OR, odds ratio.
[a]Adjusted for all covariates listed in Table 1.

Effet de la vaccination ?
Ou vaccination = témoin d'un meilleur suivi ?

L'épidémie de rougeole

Alerte sanitaire
Info prévention
Février 2018

ROUGEOLE
EN BRETAGNE

ars

Le virus de la rougeole commence à circuler activement en Bretagne.

La rougeole est une maladie hautement contagieuse à prendre au sérieux !

Elle peut occasionner une hospitalisation et entraîner des complications neurologiques graves pouvant aller jusqu'au décès.

Comment s'en protéger ?

Une priorité pour se protéger et stopper l'épidémie : vérifier sa vaccination

La grande majorité des personnes malades de l'épidémie actuelle n'étaient pas vaccinées. La couverture vaccinale en Bretagne est insuffisante pour faire face à cette épidémie.
Il est urgent de vérifier sa vaccination (2 doses sont nécessaires pour être protégé).

Ce vaccin contre la rougeole, les oreillons et la rubéole (ROR) est recommandé (et obligatoire avant 2018) chez le petit enfant à 12 et 16 mois (2 doses), mais peut être rattrapé à tout âge.

Quels sont les symptômes & quand apparaissent-ils ?

Les symptômes peuvent commencer à tout moment de 7 à 18 jours après avoir été en contact avec la personne atteinte de rougeole.

Au début la rougeole ressemble à un rhume.
Une toux, une fièvre supérieure à 38,5°C, le nez qui coule et des yeux rouges larmoyants sont courants.

Quelques jours plus tard des boutons rouges apparaissent sur le visage, puis se répandent sur le reste du corps.

Si vous ressentez ces symptômes

Consultez au plus vite votre médecin traitant !
Portez un masque par mesure de prévention.

À domicile

> éviter les contacts avec l'entourage
> Si vous avez besoin de vous déplacer, portez un masque
> aérer les pièces régulièrement
> lavez vous les mains régulièrement

À l'école / au travail

Afin de limiter les risques de contagion, il est préférable de rester chez vous :

> 5 jours minimum à partir du début de l'éruption (ou boutons).
> 10 jours dès l'apparition des premiers symptômes.

Vous devez prévenir l'école ou votre employeur pour déclarer le cas.

Attention ! Contagieux !

Une personne atteinte de rougeole est contagieuse depuis la veille des 1ers symptômes jusqu'à 5 jours après l'apparition des 1ers boutons. Elle peut infecter entre 15 et 20 personnes.

www.bretagne.ars.sante.fr
www.vaccination-info-service.fr

MARS

Message d'Alerte Rapide Sanitaire

Depuis Nov 2017

913 cas confirmés

(12/03/18)

201 cas hospitalisés

Nouveautés dans les infections bactériennes

GERICCO, Quimper, 22 & 23 Mars 2018

Endocardite infectieuse

International experts' practice in the antibiotic therapy of infective endocarditis is not following the guidelines Tissot-Dupont H *et al. Clin Microbiol Infect 2017, doi: 10.1016/j.cmi.2017.03.007.*

- 13 centres spécialisés dans la prise en charge des EI (notoriété, > 50 EI / an, publications)
- 8 pays (France, Pays Bas, Italie, Suisse, Espagne, Israel, Canada, USA) - Déclaratif
- Questions sur la pratique de l'antibiothérapie en fonction de situations cliniques (ESC 2015; AHA)

Endocardite infectieuse

International experts' practice in the antibiotic therapy of infective endocarditis is not following the guidelines Tissot-Dupont H *et al. Clin Microbiol Infect 2017, doi: 10.1016/j.cmi.2017.03.007.*

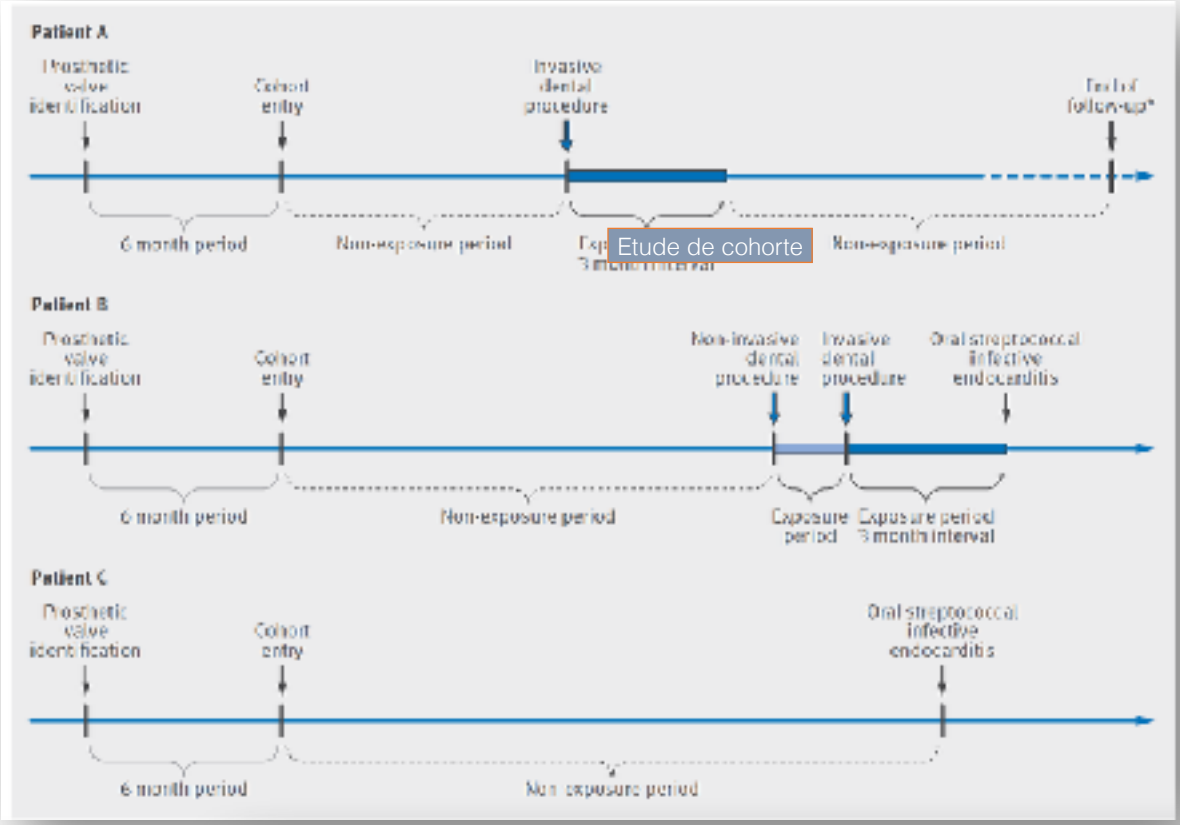
- **Adéquation aux recommandations : 58%**
- 100 % en cas de situations simples (streptocoques, entérocoques)
- 54 – 62% si EI à staphylocoque
  - Valve native : principales déviations / reco : adjonction gentamicine; daptomycine (*S. aureus*)
  - Valve prothétique : principales déviations / reco : absence de rifampicine
- 0-15% si EI à hémocultures négatives
  - 7 protocoles différents (mais 100% utilisation gentamicine en communautaire et nosocomial sauf 1 N : dapto)
- EI fongiques : reco non suivies dans 23% (chirurgie)
- **Adéquation variable selon les pays : 73% (USA) – 43% (France) – 27% (Italie)**

Faible niveau de preuve
Si situation complexe

Endocardite infectieuse

Dental procedures, antibiotic prophylaxis, and endocarditis among people with prosthetic heart valves: nationwide Population based cohort and a case crossover study. Tubiana S *et al.* BMJ 2017;358:j3776

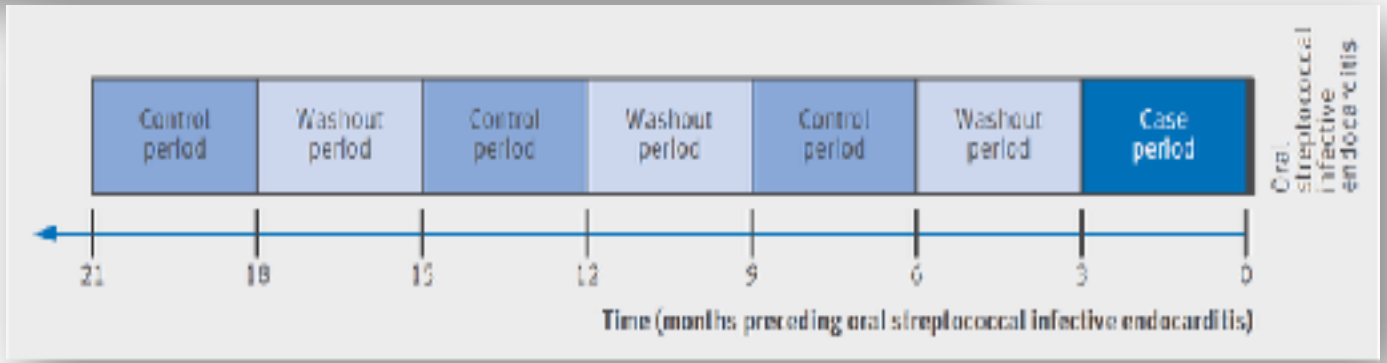
- **Etude sur données de santé SNIIRAM-PMSI – 2008 –2014 -** >18 ans, code remplacet valvulaire



Case crossover study sur cas EI à streptocoque uniquement

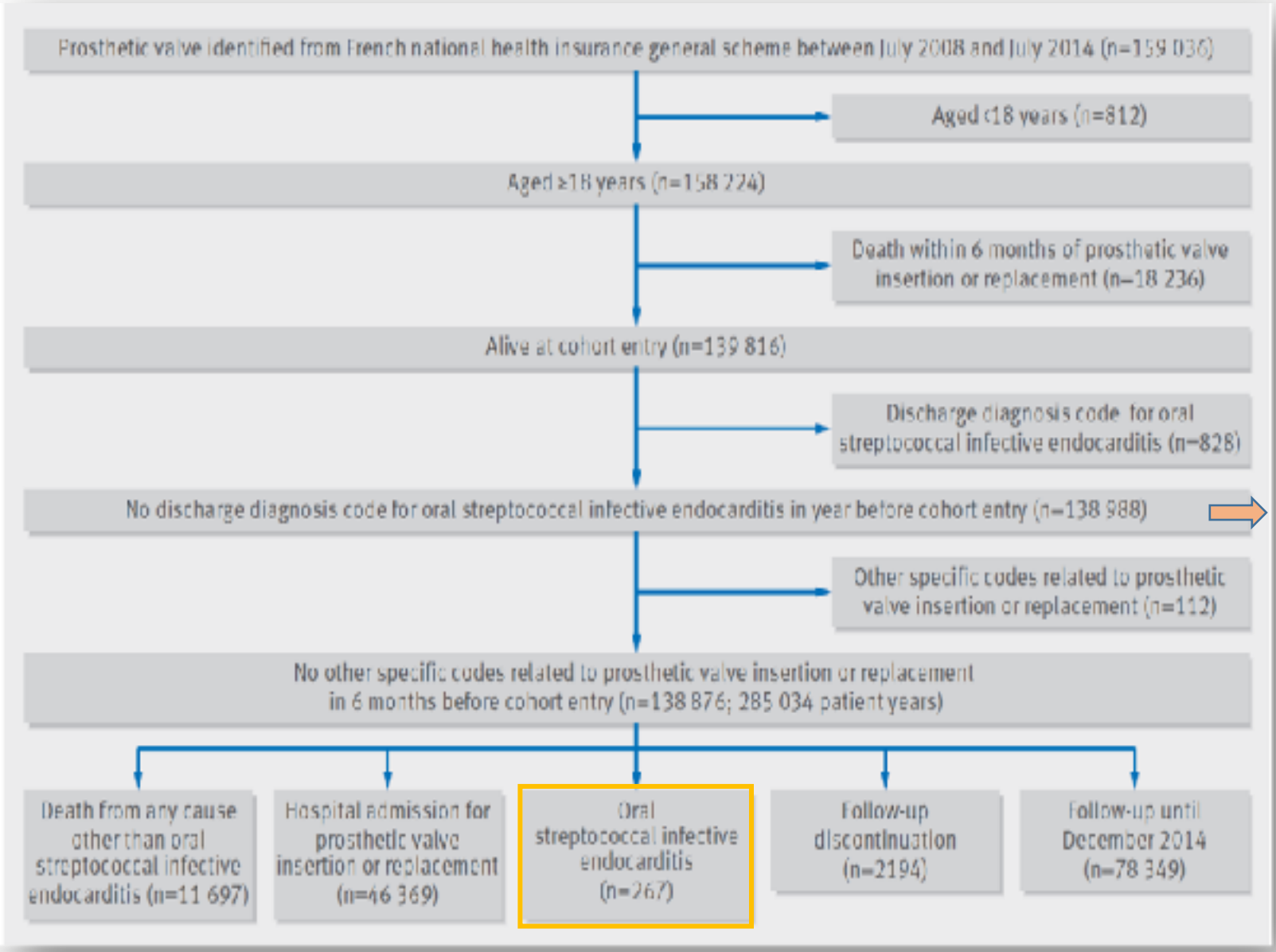
Présence ou absence de procédure dentaires dans la période controle

2009-2014



Endocardite infectieuse

Dental procedures, antibiotic prophylaxis, and endocarditis among people with prosthetic heart valves: nationwide Population based cohort and a case crossover study. Tubiana S *et al.* BMJ 2017;358:j3776



H : 59,2%
Age médian = 74 ans (63-80)

Soins dentaires :
69 303 (49,9%)

2 visites par participant /an (0,8-5,6)

Incidence EI
93,7 cas /10^5 pers/an

Endocardite infectieuse

Dental procedures, antibiotic prophylaxis, and endocarditis among people with prosthetic heart valves: nationwide Population based cohort and a case crossover study. Tubiana S *et al*. BMJ 2017;358:j3776

69 303 (49.9%) - reco : 2 x /an

Incidence Ei : 1,4 cas 10 000 IDP

Table 2 | Crude in… d … 8- … nfective endocarditis according to period of exposure, in parti…

Variables	No of participants	No of procedures	Person years	…s… IE	…ccal	Crude incidence rate of oral streptococcal IE (95% CI)	Crude incidence rate ratio (95% CI)	Adjusted relative rate* (95% CI)	P value
Non-exposed	138 846		248 544	235		94 6 (82 5 to 106.6)	1.00	1.00	
Invasive dental procedure period:									
Total	33 181	103 463	11 811	14		118.5 (56.4 to 180.6)	1.25 (0.73 to 2.00)	1.25 (0.82 to 1.82)†	0.26
Without antibiotic prophylaxis	21 471	51 183	6688	10		149.5 (56.8 to 242.2)	1.58 (0.76 to 2.87)	1.57 (0.90 to 2.53)	0.08
With antibiotic prophylaxis	18 863	52 280	5123	4		78 1 (1.6 to 154.6)	0.83 (0.24 to 1.99)	0.83 (0.33 to 1.69)	0 65
Non-invasive dental procedure period:									
Total	53 443	293 152	24 679	18		72.9 (39.2 to 106.6)	0.77 (0.48 to 1.18)	0.80 (0.56 to 1.12)†	0.22
Without antibiotic prophylaxis	47 829	217 767	20 131	13		64 6 (29 5 to 99.7)	0.68 (0.36 to 1.16)	0.70 (0.43 to 1.08)	0 13
With antibiotic prophylaxis	19 428	75 385	4548	5		109.9 (13.6 to 206.3)	1.16 (0.40 to 2.59)	1.27 (0.56 to 2.42)	0.51

IE=Infective endocarditis.
*Adjusted for sex, age, presence of implantable cardioverter defibrillator or pacemaker, diabetes, intravenous drug use, dialysis dependence.
†Interaction test between invasive and non-invasive dental procedures z score=1.80 (0.485/0.270; P=0.07).

Endocardite infectieuse

Dental procedures, antibiotic prophylaxis, and endocarditis among people with prosthetic heart valves: nationwide Population based cohort and a case crossover study. Tubiana S *et al*. BMJ 2017;358:j3776

- **Case cross over study – N=647 cas EI à streptocoques**

Table 4 | Association between dental procedures and oral streptococcal infective endocarditis in case crossover study, 2008-14

Dental procedures	Odds ratio (95% CI)	P value
Non-exposure	1.00	
Dental procedures model		
Invasive dental procedures	1.66* (1.05 to 2.63)	0.03
Non-invasive dental procedures	0.98* (0.70 to 1.36)	0.16
Antibiotic prophylaxis dental procedures model		
Invasive dental procedures:		
Without antibiotic prophylaxis	1.62 (0.81 to 3.27)	0.32
With antibiotic prophylaxis	1.69 (0.93 to 3.06)	0.19
Non-invasive procedures:		
Without antibiotic prophylaxis	0.99 (0.69 to 1.42)	0.79
With antibiotic prophylaxis	0.92 (0.44 to 1.91)	0.39

*Interaction test between invasive and non-invasive dental procedures z score=1.80 (0.527/0.292; P=0.07).

Endocardite infectieuse

Quantifying infective endocarditis risk in patients with predisposing cardiac conditions. Thornhill MH *et al*. European Heart Journal (2018) 39, 586–595

Etude NHS – 2000 – 2008 – diagn ou procédure cardiaque à risque EI – 4 gr de risque d'EI à 5 ans

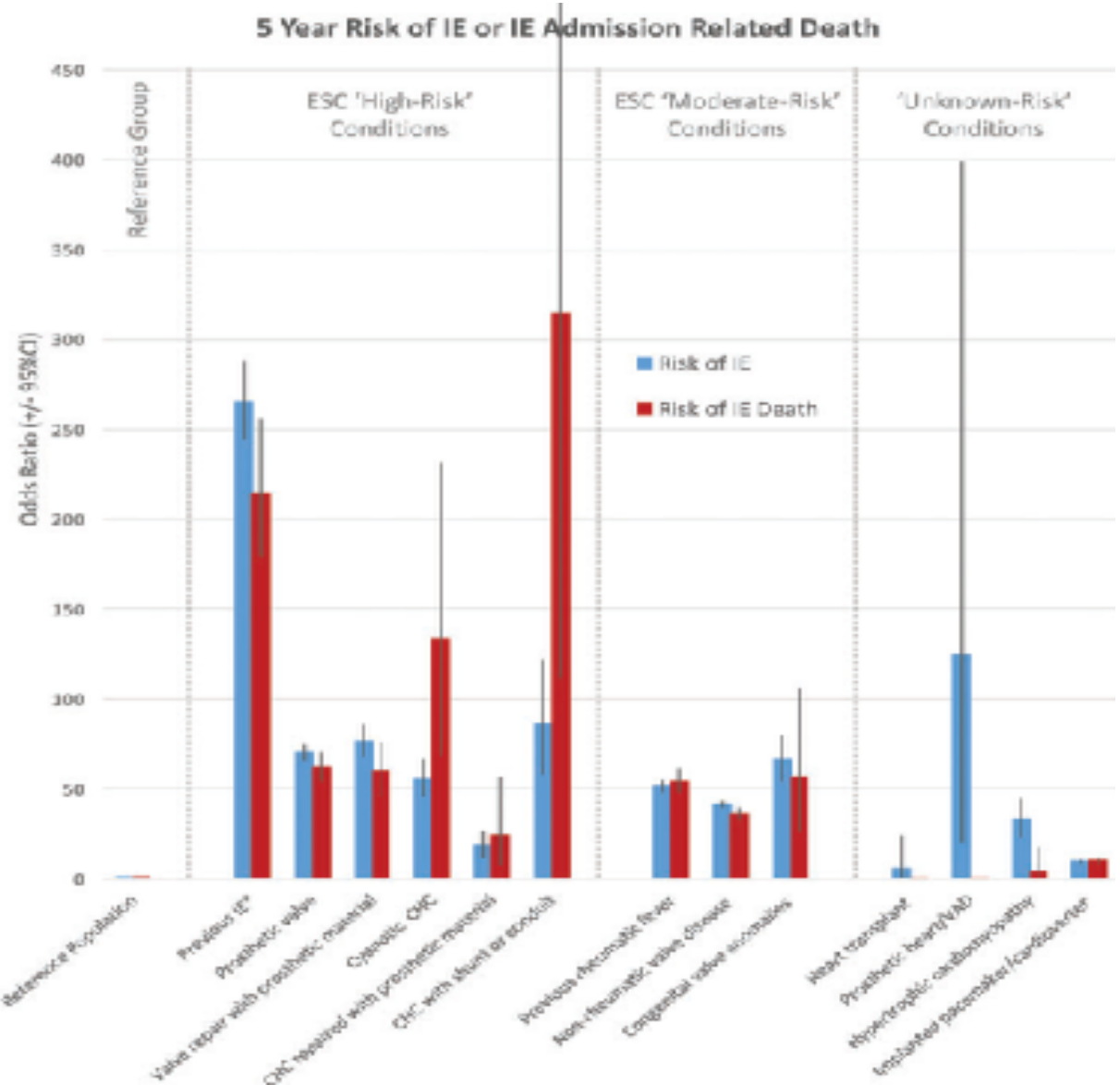
Table I Incidence of IE or IE admission-related death in different predisposing risk conditions

Condition	Size of study population (*n*)	IE admissions in 5 years	Incidence of IE (cases/million/year)	IE admission deaths in 5 years (% of IE admissions)	Incidence of IE admission deaths (deaths/million/year)
High risk					
Previous IE	9388	674	14 359	138 (21%)	2940
Prosthetic valve replacement	52 746	1223	4637	288 (24%)	1092
Valve repair with prosthetic material	13 674	322	4710	62 (19%)	907
Unrepaired cyanotic CHC	12 028	114	1896	11 (10%)	183
CHC repaired with prosthetic material	6328	23	727	4 (17%)	126
CHC with palliative shunt or conduit	1857	29	3123	5 (17%)	539
Total—high risk	96 021	2385	4968	508 (21%)	1058
Moderate risk					
Rheumatic fever	66 004	1005	3045	305 (30%)	924
Non-rheumatic valve disease	190 451	2602	2732	630 (24%)	662
Congenital valve anomalies	8981	107	2383	8 (8%)	178
Total—moderate risk	265 436	3714	2798	943 (25%)	711
Unknown risk					
Heart transplant	993	1	201	0 (0%)	0
Prosthetic heart/VAD	69	2	5797	0 (0%)	0
Hypertrophic cardiomyopathy	4418	37	1675	1 (3%)	45
Implanted pacemaker/cardioverter	192 296	652	678	193 (30%)	201
Total—unknown risk	197 776	692	700	194 (28%)	196
Reference group					
The population of England (2006)	51 815 653	9386	36.2	1652 (18%)	6.4

Endocardite infectieuse

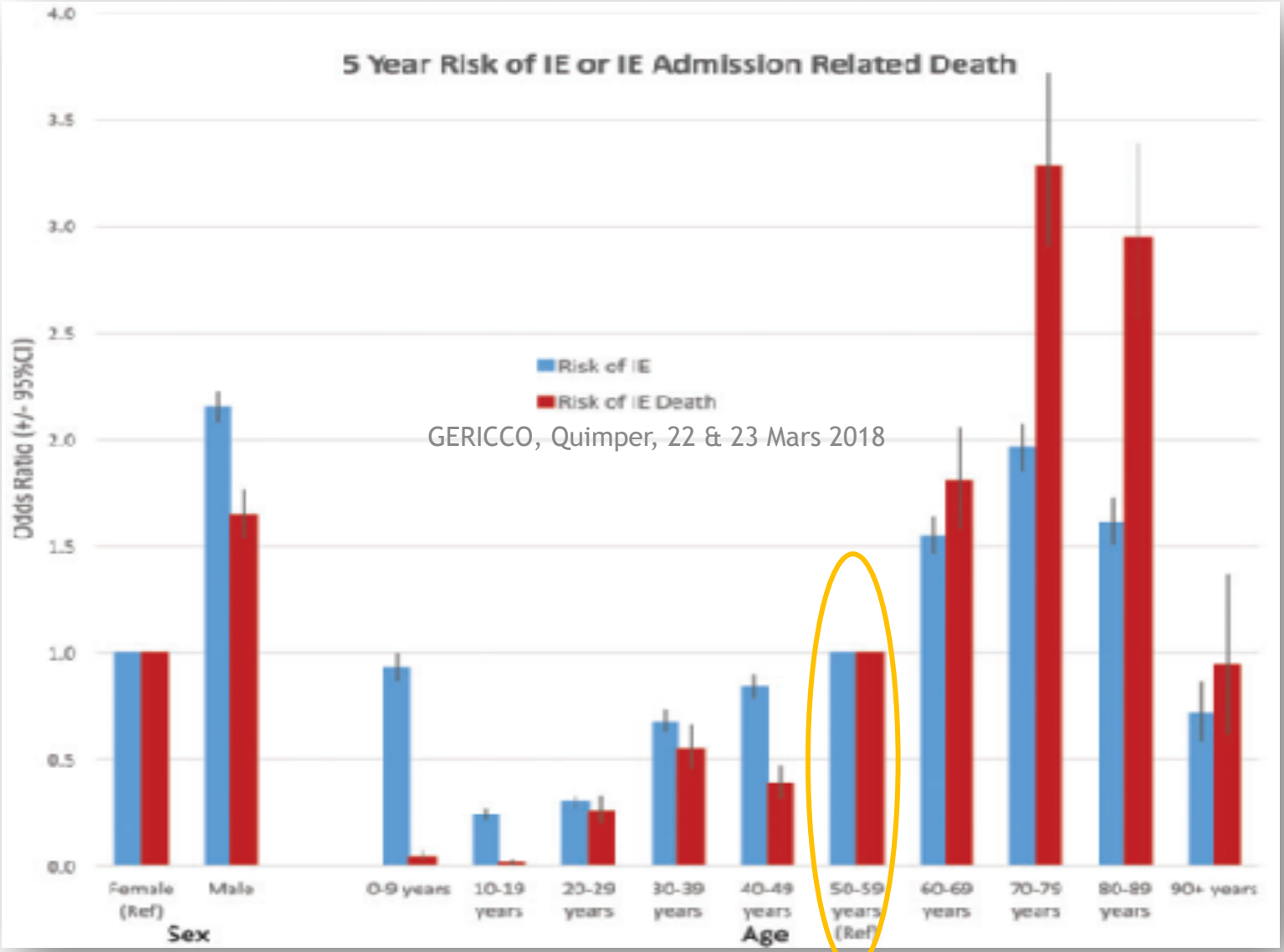
Quantifying infective endocarditis risk in patients with predisposing cardiac conditions. Thornhill MH *et al*. European Heart Journal (2018) 39, 586–595

Figure 2 Five-year risk (odds) of developing infective endocarditis or dying during an infective endocarditis admission in different cardiac conditions. [b]Excluding recurrent infective endocarditis within 180 days of the original episode.



Endocardite infectieuse

Quantifying infective endocarditis risk in patients with predisposing cardiac conditions. Thornhill MH *et al*. European Heart Journal (2018) 39, 586–595



GERICCO, Quimper, 22 & 23 Mars 2018

GERICCO, Quimper, 22 & 23 Mars 2018

Corticothérapie et choc septique

	APROCCHSS	ADRENAL
Contexte	France 34 centres	Australie, Arabie Saoudite, Dk, UK, NZ ; 69 centres
N patients	1241	3800
Intervention	HSHC 50 mg IV x 4/j Fludrocortisone 50 µg SNG /j	HSHC 200 mg/j IVSE max 7 j
Critère de jugement principal	Décès à 90 j	Décès à 90 j
Résultat	43,0 vs 49,1 (*P* = 0,03)	27,9 vs 28,8 (NS)
Critères de jugement secondaires	Jours sans défaillances d'organe (VM, catécholamines…)	Jours sans défaillances d'organe (VM, catécholamines…)
Résultat	Amélioration plus rapide sous CTC	Amélioration plus rapide sous CTC

Adjunctive Glucocorticoid Therapy in Patients with Septic Shock
Venkatesh B *et al*, NEJM 2018

Hydrocortisone plus Fludrocortisone for Adults with Septic Shock
Annane D *et al*, NEJM 2018

Corticothérapie et choc septique

	APROCCHSS	ADRENAL
Pathologie chirurgicale	18,3%	31,5%
EER	27,6%	12,7%
VM	99,9%	91,8%
Bactériémie	36,6%	17,3%
Pneumonie	35,2%	59,4%
Infection urinaire	17,7%	7,9%
Infection intra-abdo	11,5%	25,9%

Plus graves

HSHC pour les patients les plus sévères

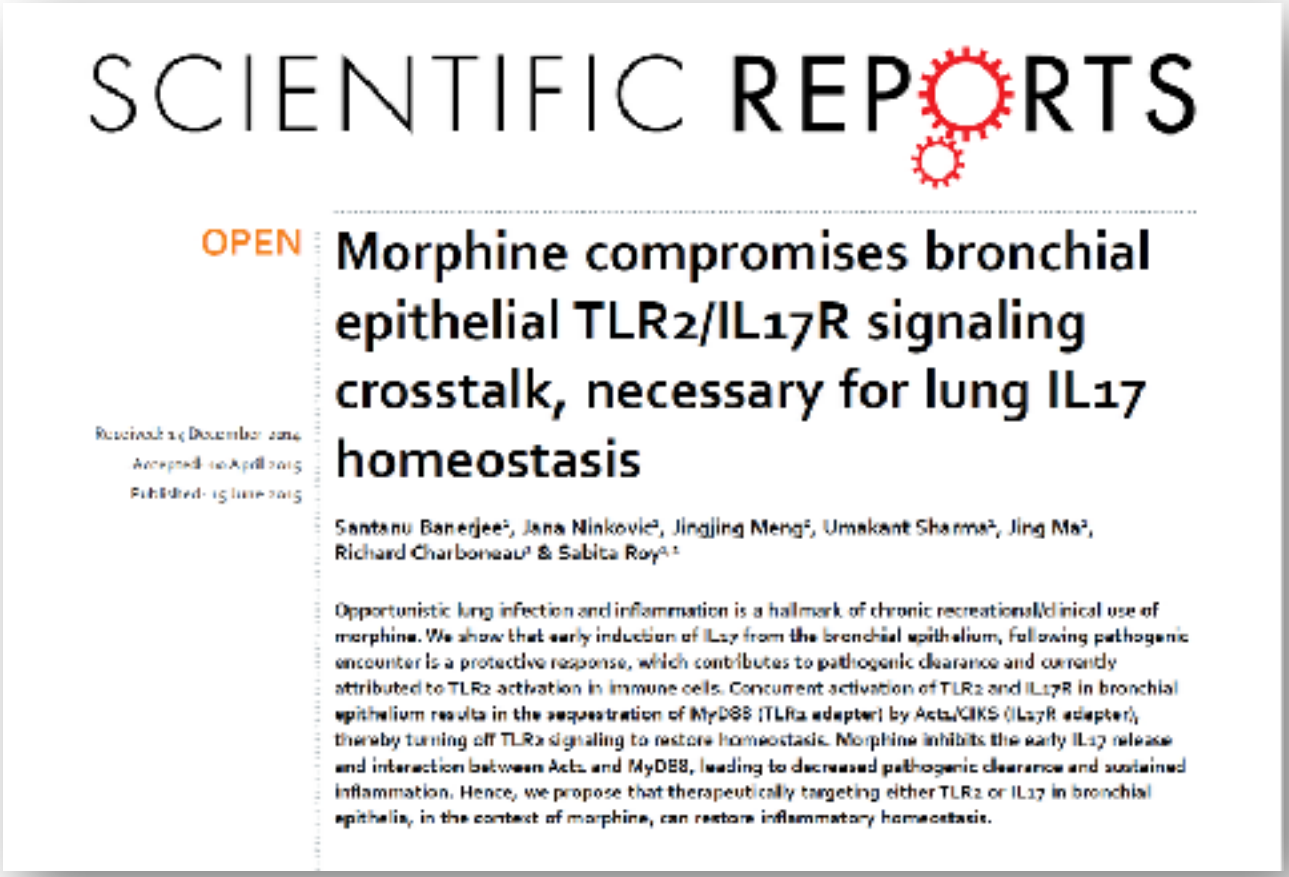
Infections invasives à pneumocoques : nouveaux FDR

Opioid Analgesic Use and Risk for Invasive Pneumococcal Diseases A Nested Case–Control Study. Wiese AD *et al*. Ann Intern Med 2018; doi:10.7326/M17-1007

Table 5. Crude and Adjusted Odds Ratios for Laboratory-Confirmed IPD, by Opioid Use Type, Among Tennessee Medicai Enrollees, 1995–2014 (n = 25 362)

Exposure*	Case Patients, n	Odds Ratio (95% CI)	
		Crude	Adjusted†
Recency of opioid use			
Remote users	492	1.00 (reference)	1.00 (reference)
Past	116	1.13 (0.92–1.39)	0.87 (0.70–1.08)
Recent	312	1.50 (1.29–1.73)	1.03 (0.87–1.21)
Current	311	2.47 (2.11–2.89)	1.62 (1.36–1.92)
New‡	21	3.01 (1.90–4.78)	2.44 (1.49–4.00)
Duration of opioid action			
Remote users	492	1.00 (reference)	1.00 (reference)
Short	231	2.24 (1.80–2.46)	1.58 (1.32–1.90)
Long	37	3.92 (2.73–5.61)	1.87 (1.24–2.82)
Combination short/long	73	3.15 (2.25–4.42)	1.64 (1.12–2.38)
Previously described immunosuppressive properties			
Remote users	492	1.00 (reference)	1.00 (reference)
Unknown	35	2.26 (1.58–3.25)	1.79 (1.22–2.63)
NIS	200	2.31 (1.93–2.77)	1.55 (1.27–1.88)
IS	44	3.23 (2.33–4.48)	1.74 (1.20–2.53)
Combination unknown/NIS/IS	32	3.07 (2.09–4.50)	1.72 (1.12–2.63)
Opioid potency			
Remote users	492	1.00 (reference)	1.00 (reference)
Medium	245	2.03 (1.40–2.93)	1.52 (1.05–2.18)
High	100	3.50 (2.77–4.43)	1.72 (1.32–2.25)
Combination medium/high	29	3.62 (2.42–5.44)	2.20 (1.40–3.46)
Opioid dose§			
Remote users	492	1.00 (reference)	1.00 (reference)
<50 MME/d	170	2.13 (1.77–2.58)	1.54 (1.26–1.88)
50–90 MME/d	51	2.82 (2.07–3.83)	1.71 (1.22–2.39)
≥90 MME/d	90	3.19 (2.50–4.06)	1.75 (1.33–2.29)

Infections invasives à pneumocoques : nouveaux FDR



SCIENTIFIC REPORTS

OPEN

Morphine compromises bronchial epithelial TLR2/IL17R signaling crosstalk, necessary for lung IL17 homeostasis

Received: 15 December 2014
Accepted: 10 April 2015
Published: 15 June 2015

Santanu Banerjee[1], Jana Ninkovic[1], Jingjing Meng[1], Umakant Sharma[1], Jing Ma[1], Richard Charboneau[1] & Sabita Roy[1,2]

Opportunistic lung infection and inflammation is a hallmark of chronic recreational/clinical use of morphine. We show that early induction of IL17 from the bronchial epithelium, following pathogenic encounter is a protective response, which contributes to pathogenic clearance and currently attributed to TLR2 activation in immune cells. Concurrent activation of TLR2 and IL17R in bronchial epithelium results in the sequestration of MyD88 (TLRs adapter) by Act1/CIKS (IL17R adapter), thereby turning off TLR2 signaling to restore homeostasis. Morphine inhibits the early IL17 release and interaction between Act1 and MyD88, leading to decreased pathogenic clearance and sustained inflammation. Hence, we propose that therapeutically targeting either TLR2 or IL17 in bronchial epithelia, in the context of morphine, can restore inflammatory homeostasis.

Infections invasives à pneumocoques : nouveaux FDR

Specific Polysaccharide Antibody Deficiency Revealed by Severe Bacterial Infections in Adulthood: A Report on 11 Cases. Lopez B et al. Clin Infect Dis 2017; 65 :33328-331

- **Service Immunologie clinique – Lille – 2013-2016 – SAPD révélés par infections sévères**

		Severe Bacterial Infections Before Diagnosis				Other Bacterial Infections Before Diagnosis	Specific Polysaccharide Antibody Deficiency Phenotype	Treatment	Follow-up After Diagnosis (mo)	Bacterial Infections After Diagnosis
Patient No.	Age (y)/ Gender	Clinical	Bacteria*	Frequency	Complication					
1	60/F	Bacteremia	NM serotype C	Isolated			Mild	Conjugate vaccines	17	None
2	17/F	Meningitis	NM serotype Y	Isolated			Severe	Conjugate vaccines	6	None
3	26/M	Meningitis	NM serotype B	Isolated			Moderate	Conjugate vaccines	35	None
4	64/F	Meningitis, purpura fulminans	NM serotype C	Isolated	Labyrinthitis		Severe	Conjugate vaccines	34	None
5	18/M	Bacteremia, septic shock	Hib	Isolated	Pericardial tamponade		Moderate	Conjugate vaccines	17	None
6	33/F	Meningitis	SP	Isolated	Seizures		Severe	Conjugate vaccines	27	None
7	25/F	Meningitis, pneumonia	Hib, SP	2 hosp. in the previous 5 y		Recurrent sinusitis	Moderate	Ig replacement	7	None
8	35/F	Pneumonia		4 hosp. in the previous 5 y	Pleurisy (n = 1)	Recurrent bronchitis and upper respiratory tract infections	Mild	Ig replacement	16	None
9	34/F	Pneumonia	SP, Klebsiella pneumoniae	5 hosp. in the previous 4 y	Pleurisy (n = 1), multilobar (n = 1), septic shock (n = 1), hypoxemia (n = 5)	Chronic rhinosinusitis	Severe	Ig replacement	14	None
10	64/F	Pneumonia	SP, Hib	8 hosp. in the previous 4 y	Hypoxemia (n = 6), pleurisy (n = 2), multilobar (n = 3)		Severe	Ig replacement	7	None
11	22/M	Pneumonia		Isolated		Recurrent bronchitis, bronchiec-	Moderate	Ig replacement	24	None

« Innovations » thérapeutiques

Céfazoline *versus* Pénicilline M

Comparative Effectiveness of Cefazolin Versus Nafcillin or Oxacillin for Treatment of Methicillin-Susceptible Staphylococcus aureus Infections Complicated by Bacteremia: A Nationwide Cohort Study. McDanel JS *et al.* Clin Infect Dis 2017;65:100–6

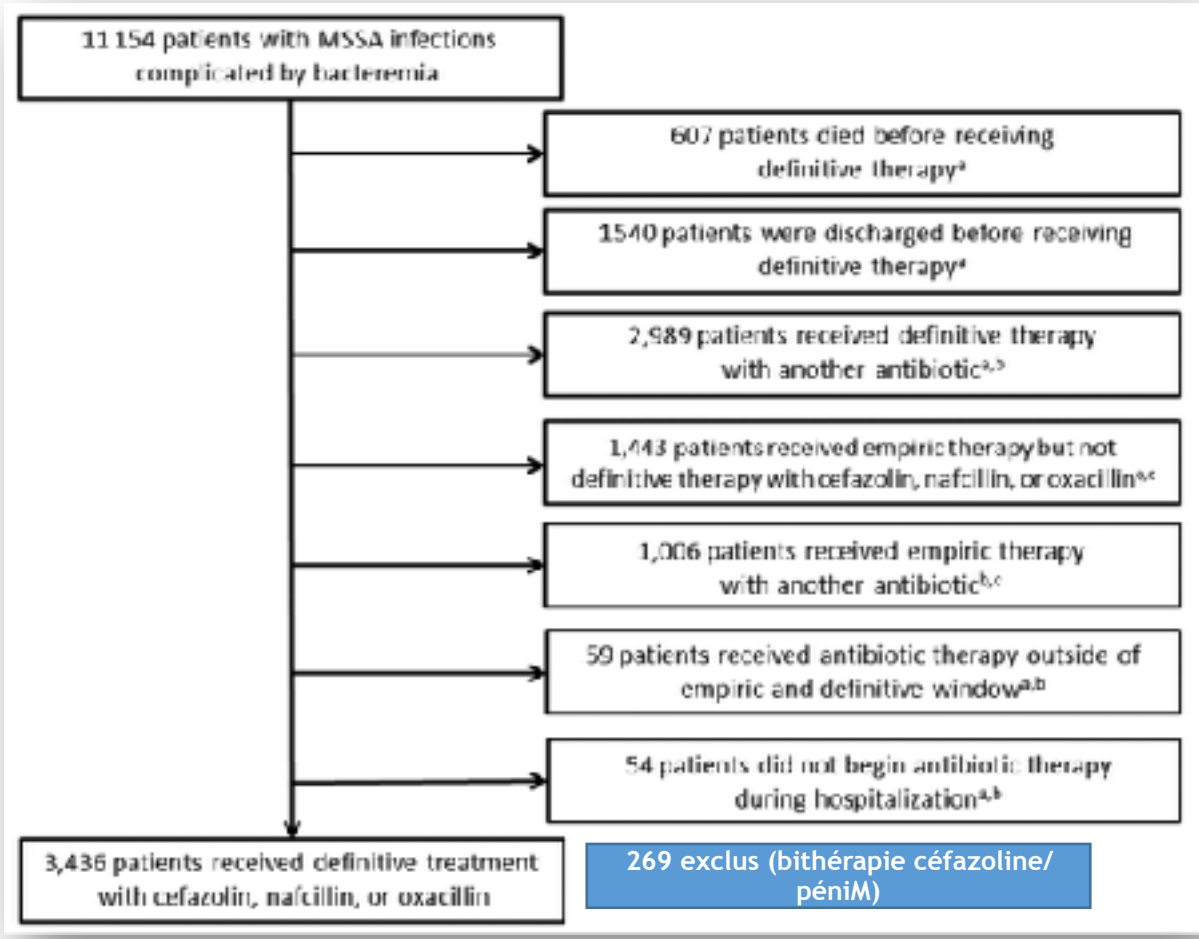
- **Etude rétrospective – 119 VA hôpitaux (>25 bactériémies *S. aureus* /an) – 2003-2010**

PRE REQUIS

Pas de différence de :

- ❖ **mortalité**
- ❖ **Échec de traitement**
- ❖ **Effets secondaires**

⇒ **Faibles effectifs**
⇒ **Céfazoline : effet inoculum**
⇒ **Céfazoline : Faible diffusion SNC**



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Characteristic	Cefazolin (n = 1163)	Nafcillin or Oxacillin (n = 2004)	*P* Value
Male sex	1133 (97)	1974 (99)	.031
Age, y			
≤55	296 (25)	474 (24)	.715
56–61	267 (23)	479 (24)	…
62–73	312 (27)	546 (27)	…
≥74	288 (25)	505 (25)	…
APACHE III score ≥34	651 (56)	1040 (52)	.027
Charlson comorbidity index score, median (IQR)	2 (1–3)	2 (1–3)	.013
Other infections			
Skin and soft tissue infections	287 (25)	460 (23)	.271
Osteomyelitis	138 (12)	267 (13)	.236
Endocarditis	52 (4)	145 (7)	.002
Dialysis and/or ESRD	176 (15)	168 (8)	<.001
Hospital-onset infection[b]	241 (21)	489 (24)	.018
Hospitalization in the prior year	670 (58)	1138 (57)	.652
Admission to intensive care unit	178 (15)	378 (19)	.011
Postinfection length of stay in the hospital[c], d, median (IQR)	12 (8–18)	13 (9–22)	<.001
30-d mortality	113 (10)	307 (15)	<.001
45-d mortality	164 (14)	393 (20)	<.001
90-d mortality	231 (20)	502 (25)	.001
MSSA recurrence			
45–90 d	20 (2)	28 (1)	.474
91–365 d	38 (3)	44 (2)	.067

Céfazoline *versus* Pénicilline M

Comparative Effectiveness of Cefazolin Versus Nafcillin or Oxacillin for Treatment of Methicillin-Susceptible Staphylococcus aureus Infections Complicated by Bacteremia: A Nationwide Cohort Study. McDanel JS *et al*. Clin Infect Dis 2017;65:100–6

Table 2. Multivariate Regression Models Comparing Patients With Methicillin-Susceptible *Staphylococcus aureus* Infections Complicated by Bacteremia Who Received Definitive Therapy With Cefazolin Versus Nafcillin or Oxacillin (N = 3167)

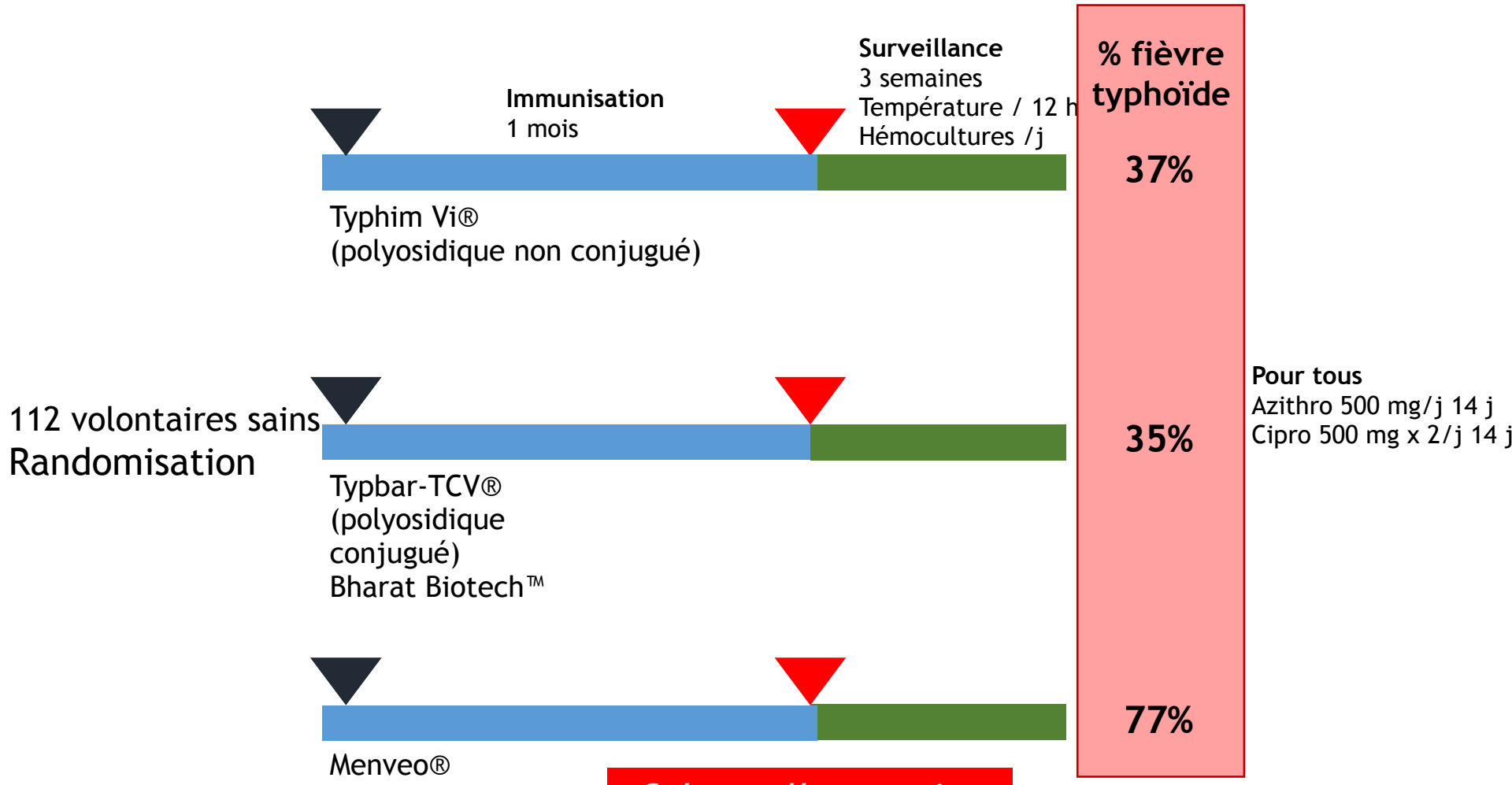
Model	Outcome	Regression Analysis	Risk Ratio (95% Confidence Interval)	*P* Value
Mortality			Hazard Ratio	
Unadjusted	30-d mortality	Cox proportional hazards regression	0.51 (.49–.76)	<.001
Adjusted[a]	30-d mortality	Cox proportional hazards regression	0.63 (.51–.78) ★	<.001
Unadjusted	90-d mortality	Cox proportional hazards regression	0.75 (.65–.88)	<.001
Adjusted[b]	90-d mortality	Cox proportional hazards regression	0.77 (.66–.90) ★	.001
Recurrence[c]			Odds Ratio[d]	
Unadjusted	Recurrence	Ordinal logistic regression	1.20 (1.00–1.44)	.047
Adjusted[a]	Recurrence	Ordinal logistic regression	1.13 (.94–1.36)	.211

Pas de différence entre les 2 groupes en termes de rechute à distance

Point fort : effectifs
Limites : rétrospectif / Facteurs confondants: tendance des cliniciens à ne pas utiliser céfazo pour infection grave ou à fort haut inoculum/ Pas d'infos sur doses , durée de traitement

Vaccination contre la typhoïde

Efficacy and immunogenicity of a Vi-tetanus toxoid conjugate vaccine in the prevention of typhoid fever using a controlled human infection model of *Salmonella* Typhi: a randomised controlled, phase 2b trial ; Jin C *et al*, Lancet 2017



Vaccination contre la typhoïde

Efficacy and immunogenicity of a Vi-tetanus toxoid conjugate vaccine in the prevention of typhoid fever using a controlled human infection model of *Salmonella* Typhi: a randomised controlled, phase 2b trial ; Jin C *et al*, Lancet 2017

4 effets indésirables graves :

- Diagnostic MICI (Typbar)
- Rétention aiguë d'urine (Typhim)
- Amygdalectomie (Typhim)
- Arthrite réactive (Typhim)

Immunité plus durable que Typhim Vi

Possible chez les enfants 6 à 24 mois → **Présélection par l'OMS** (octobre 2017)

Néphrotoxicité Vanco Pipé-Tazo

Systematic Review and Metaanalysis of Acute Kidney Injury Associated With Concomitant Vancomycin and Piperacillin/Tazobactam. Hammond DA *et al*. Clin Infect Dis 2017;64:666–74

Revue de la littérature 1995 – Fin 2016
Pub Med, Cochrane, Scopus

↓

14 articles sélectionnés

↓

V + autre BL : N= 6
V + céfépime : N= 4
V seule : N= 3
V + céfépime ou méropénème : N=1

↓

N = 3549 patients

Population	Adjusted Analysis
All studies [12–25]	aOR, 3.11; 95% CI, 1.77–5.47; $P < .001$
Adults [12–19, 21, 22]	aOR, 3.16; 95% CI, 1.72–5.76; $P < .001$
Children [20, 23, 24]	Deferred
Vancomycin and another beta-lactam [12, 14, 19–22]	aOR, 3.31; 95% CI, 2.13–5.12; $P < .001$
Vancomycin and cefepime [15, 16, 18, 23]	aOR, 3.78; 95% CI, 2.48–5.78; $P < .001$
Vancomycin and cefepime or meropenem [25]	Deferred
Vancomycin alone [13, 17, 24]	aOR, 2.50; 95% CI, 0.41–15.44; $P = .323$
Good quality [12–19]	aOR, 2.97; 95% CI, 1.60–5.46; $P = .001$
Fair or poor quality [20–25]	aOR, 3.53; 95% CI, 1.76–7.06; $P < .001$
Critically ill [15, 16, 20, 24]	aOR, 2.83; 95% CI, 0.74–10.86; $P = .128$
Noncritically ill [12–14, 17, 18, 21, 22]	aOR, 3.04; 95% CI, 1.49–6.22; $P = .002$

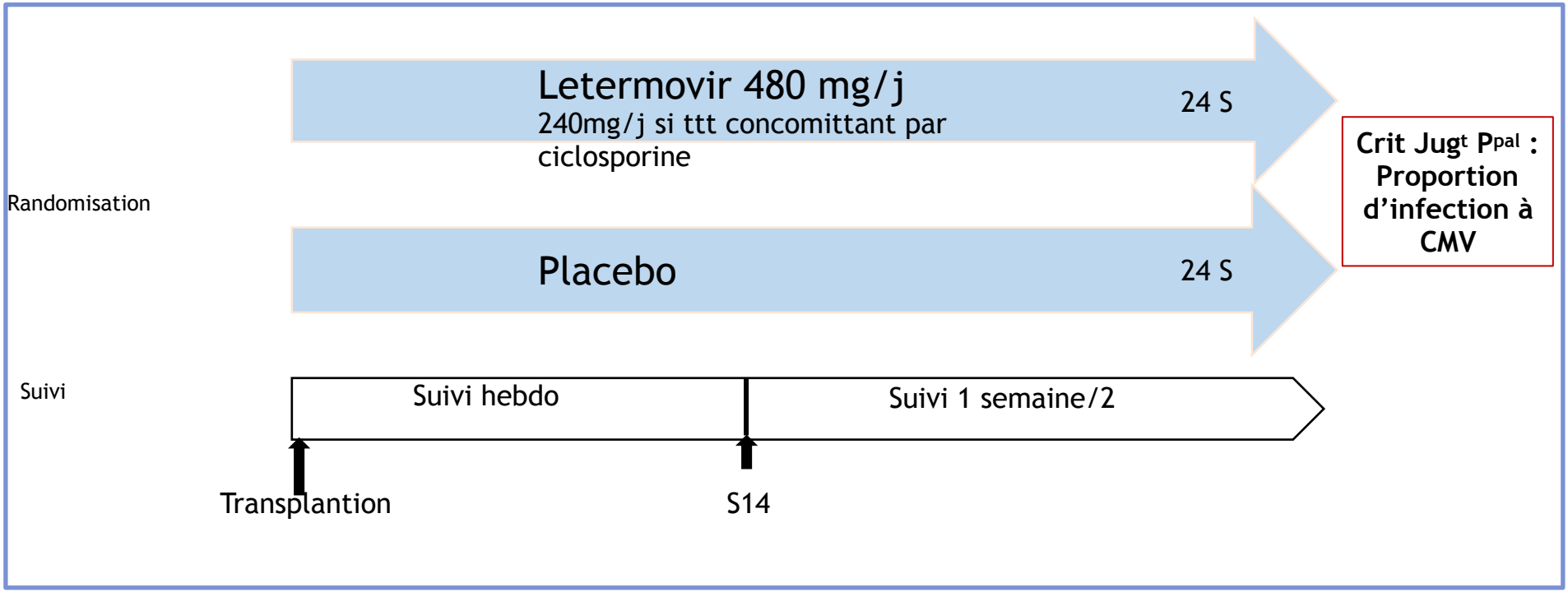
Letermovir

Letermovir Prophylaxis for Cytomegalovirus in Hematopoietic-Cell Transplantation Marty FM *et al.* N Engl J Med 2017; DOI: 10.1056/NEJMoa1706640

- **Essai randomisé controlé vs placebo, double aveugle multicentrique**

Critères d'inclusion:
-≥18 ans avec greffe allogénique de cellule souche hématopoiétique
-Sérologie CMV positive
-PCR CMV négative 5 jours avant randomisation
-Capacité de prendre le traitement à J28 post-transplantation

Critères d'exclusion:
-Insuffisance hépato-cellulaire
-Cl créat < 10ml/min
-Traitement récent ou en cours par agent anti-viral



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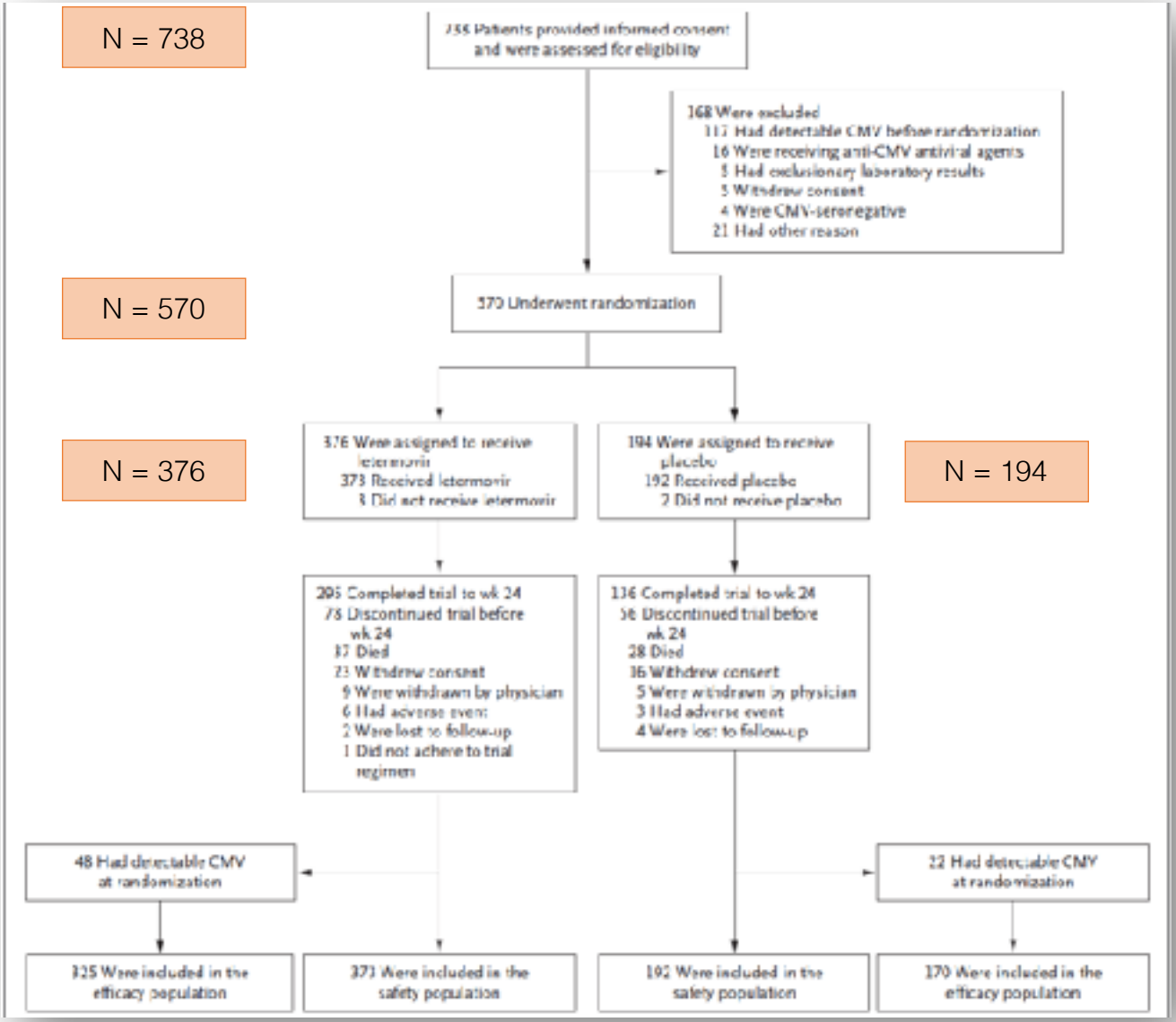

Letermovir

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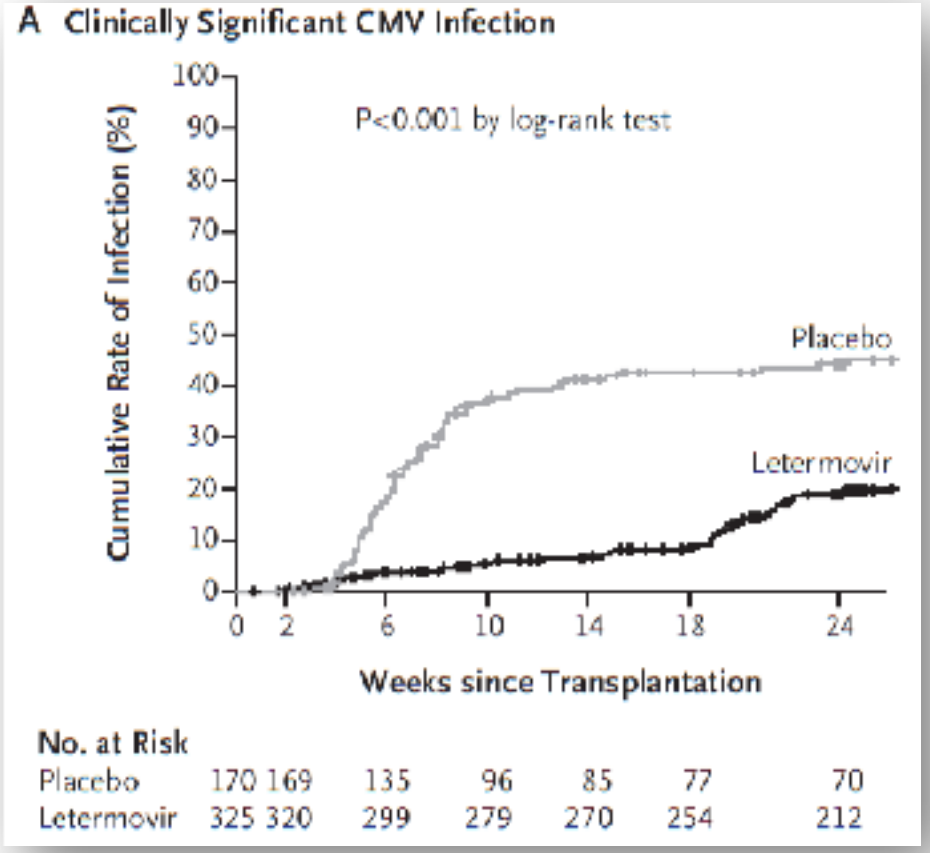
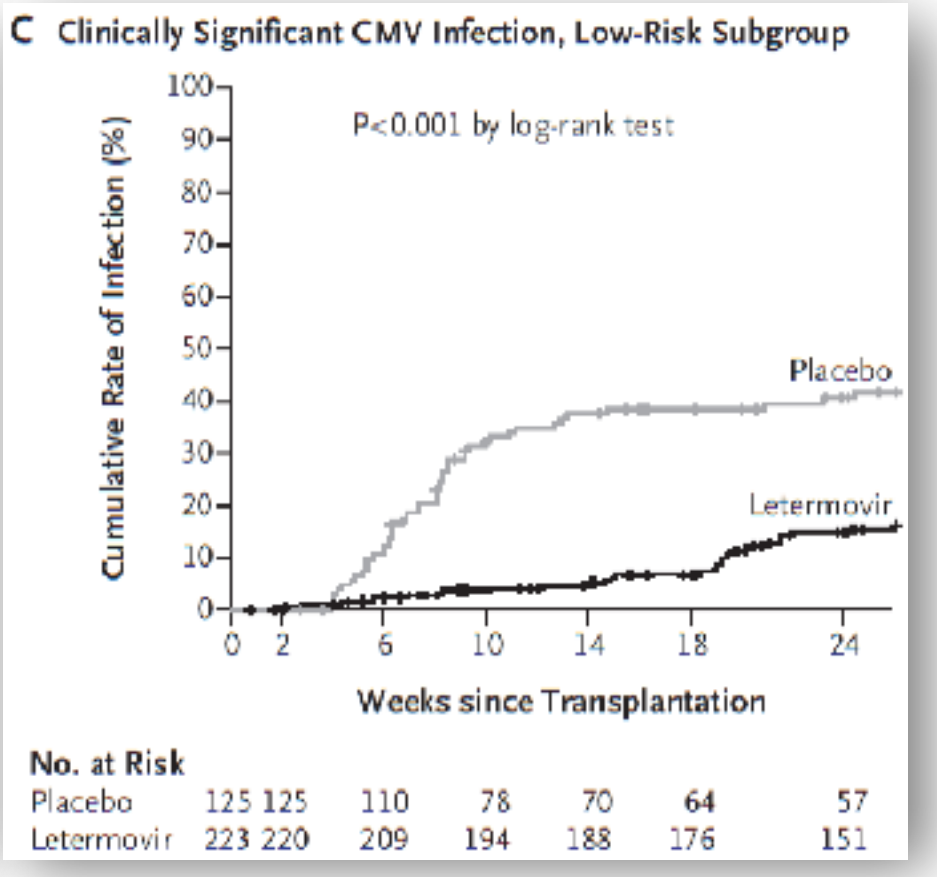
Table 1. Characteristics at Baseline of All the Patients Who Underwent Randomization and Received the Trial Regimen (Safety Population).*

Characteristic	Letermovir Group (N = 373)	Placebo Group (N = 192)
Age — y		
Median	53	54
Range	18–75	18–73
Male sex — no. (%)	211 (56.6)	116 (60.4)
Race — no. (%)†		
White	301 (80.7)	162 (84.4)
Asian	40 (10.7)	18 (9.4)
Other	32 (8.6)	12 (6.2)
CMV-seropositive donor — no. (%)	230 (61.7)	114 (59.4)
Primary reason for hematopoietic-cell transplantation — no. (%)		
Acute myeloid leukemia	142 (38.1)	72 (37.5)
Myelodysplastic syndrome	63 (16.9)	22 (11.5)
Non-Hodgkin's lymphoma	47 (12.6)	28 (14.6)
Acute lymphocytic leukemia	35 (9.4)	17 (8.9)
Other disease	86 (23.1)	53 (27.6)
HLA matching and donor type — no. (%)		
Matched unrelated	136 (37.0)	78 (40.6)
Matched related	121 (32.4)	63 (32.8)
Mismatched related	63 (16.9)	24 (12.5)
Mismatched unrelated	53 (14.2)	27 (14.1)
Haploidentical related donor — no. (%)	60 (16.1)	21 (10.9)
Stem-cell source — no. (%)		
Peripheral blood	279 (74.8)	134 (69.8)
Bone marrow	82 (22.0)	47 (24.5)
Cord blood	12 (3.2)	11 (5.7)
Myeloablative conditioning regimen — no. (%)	186 (49.9)	97 (50.5)
Antithymocyte globulin use — no. (%)	140 (37.5)	58 (30.2)
Alemtuzumab use — no. (%)	12 (3.2)	11 (5.7)
Ex vivo T-cell depletion — no. (%)‖	9 (2.4)	5 (2.6)
Immunosuppressant use — no. (%)		
Cyclosporine	193 (51.7)	100 (52.1)
Tacrolimus	160 (42.9)	79 (41.1)
Mycophenolate§	120 (32.2)	51 (26.6)
Sirolimus or everolimus	30 (8.0)	20 (10.4)
Acute GVHD of grade ≥2 at randomization — no. (%)	2 (0.5)	1 (0.5)
Risk of CMV disease — no. (%)¶		
High risk	121 (32.4)	54 (28.1)
Low risk	252 (67.6)	138 (71.9)

Letermovir

Letermovir Prophylaxis for Cytomegalovirus in Hematopoietic-Cell Transplantation Marty FM *et al.* N Engl J Med 2017; DOI: 10.1056/NEJMoa1706640





Ht risque Inf CMV : Mismatch HLA – Donneur haploidentique – Corticothérapie - Sang de cordon

Clostridium difficile et transplantation de microbiote fécal

GERICCO, Quimper, 22 & 23 Mars 2018

Clinical Infectious Diseases

IDSA GUIDELINE

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

L. Clifford McDonald,[1] Dale N. Gerding,[2] Stuart Johnson,[2,3] Johan S. Bakken,[4] Karen C. Carroll,[5] Susan E. Coffin,[6] Erik R. Dubberke,[7] Kevin W. Garey,[8] Carolyn V. Gould,[1] Ciaran Kelly,[9] Vivian Loo,[10] Julia Shaklee Sammons,[6] Thomas J. Sandora,[11] and Mark H. Wilcox[12]

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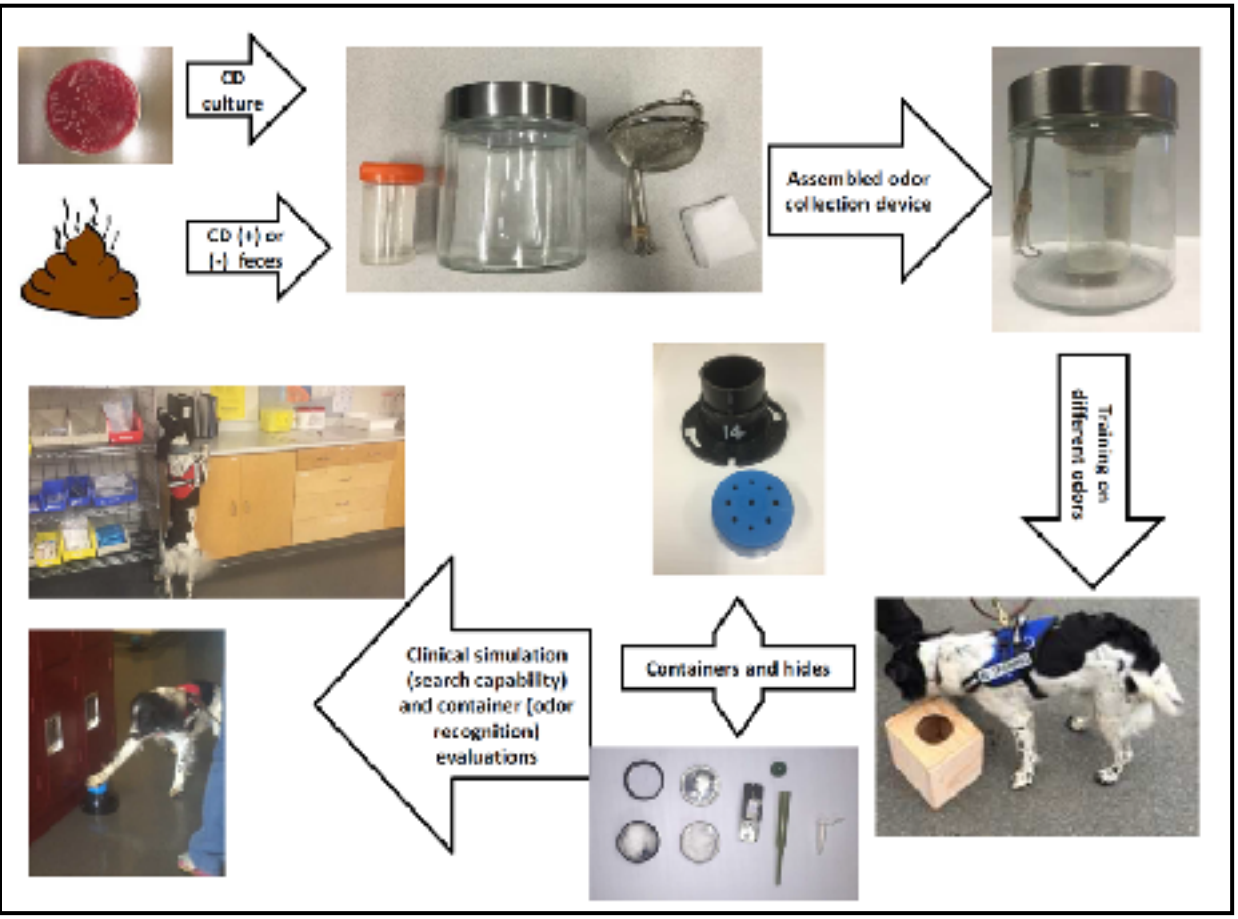
C. difficile : diagnostic

Identifying environmental reservoirs of *Clostridium difficile* with a scent detection dog; preliminary evaluation

Bryce E et al, the Journal of Hospital Infection 2017

Entrainement



Recherche de réservoirs environnementaux
Se 80%, et Sp 93%

Implémentation à l'hôpital
1 chien, 1 maître
16 min par service
83 alertes
→ Ménage refait

C. difficile : traitement

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

McDonald LC et al, Clinical Infectious Diseases 2018

Table 1. Recommendations for the Treatment of *Clostridium difficile* Infection in Adults

Clinical Definition	Supportive Clinical Data	Recommended Treatment[a]	Strength of Recommendation/ Quality of Evidence
Initial episode, non-severe	Leukocytosis with a white blood cell count of ≤15 000 cells/mL and a serum creatinine level <1.5 mg/dL	• VAN 125 mg given 4 times daily for 10 days, OR • FDX 200 mg given twice daily for 10 days • Alternate if above agents are unavailable: metronidazole, 500 mg 3 times per day by mouth for 10 days	Strong/High Strong/High Weak/High
Initial episode, severe[b]	Leukocytosis with a white blood cell count of >15 000 cells/mL or a serum creatinine level >1.5 mg/dL	• VAN, 125 mg 4 times per day by mouth for 10 days, OR • FDX 200 mg given twice daily for 10 days	Strong/High Strong/High
Initial episode, fulminant	Hypotension or shock, ileus, megacolon	• VAN, 500 mg 4 times per day by mouth or by nasogastric tube. If ileus, consider adding rectal instillation of VAN. Intravenously administered metronidazole (500 mg every 8 hours) should be administered together with oral or rectal VAN, particularly if ileus is present.	Strong/Moderate (oral VAN); Weak/Low (rectal VAN); Strong/Moderate (intravenous metronidazole)

Pas de métronidazole !

C. difficile : traitement

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

McDonald LC et al, Clinical Infectious Diseases 2018

Nouveautés non incluses dans les recommandations

Bezlotoxumab : AMM (en association avec ATB, ≥ 65 ans, infection sévère, ATCD récent d'ICD, immunodépression) ; coût-efficacité

Fidaxomicine « prolongée pulsée » : étude EXTEND

C. difficile : traitement

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

McDonald LC et al, Clinical Infectious Diseases 2018

FMT dans le traitement des infections à *Clostridium difficile*

Table 1. Recommendations for the Treatment of *Clostridium difficile* Infection in Adults

Clinical Definition	Supportive Clinical Data	Recommended Treatment[a]	Strength of Recommendation/ Quality of Evidence
First recurrence	…	• VAN 125 mg given 4 times daily for 10 days if metronidazole was used for the initial episode, OR	Weak/Low
		• Use a prolonged tapered and pulsed VAN regimen if a standard regimen was used for the initial episode (eg, 125 mg 4 times per day for 10–14 days, 2 times per day for a week, once per day for a week, and then every 2 or 3 days for 2–8 weeks), OR	Weak/Low
		• FDX 200 mg given twice daily for 10 days if VAN was used for the initial episode	Weak/Moderate
Second or subsequent recurrence	…	• VAN in a tapered and pulsed regimen, OR	Weak/Low
		• VAN, 125 mg 4 times per day by mouth for 10 days followed by rifaximin 400 mg 3 times daily for 20 days, OR	Weak/Low
		• FDX 200 mg given twice daily for 10 days, OR	Weak/Low
		• Fecal microbiota transplantation[c]	Strong/Moderate

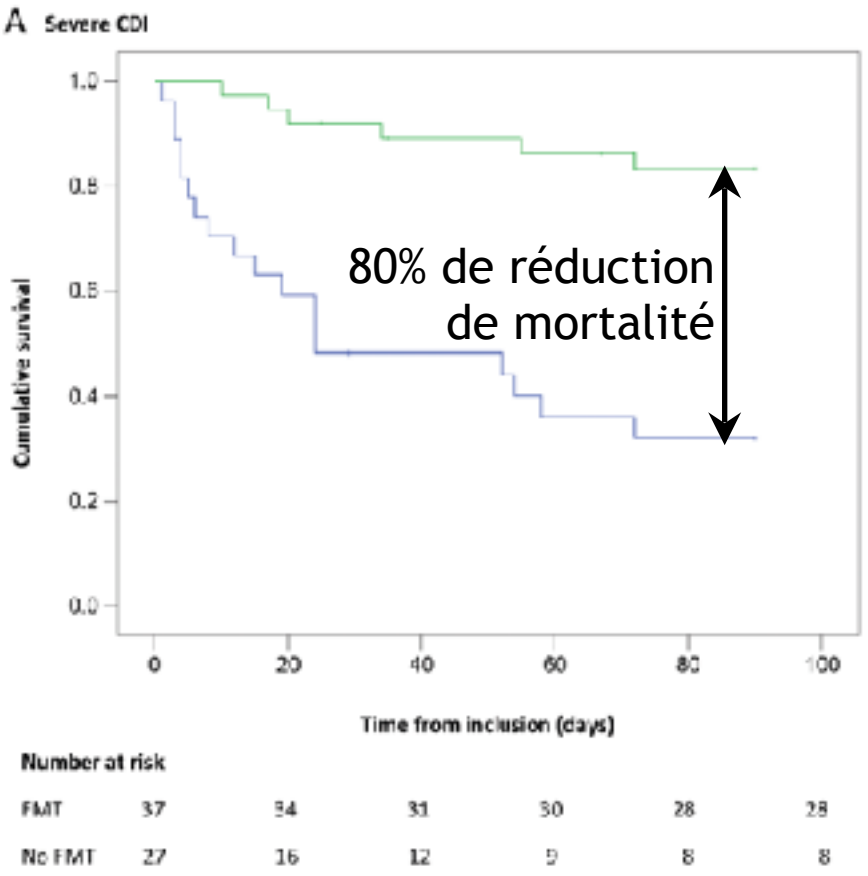
FMT: The opinion of the panel is that appropriate antibiotic treatments for at least 2 recurrences (ie, 3 CDI episodes) should be tried prior to offering fecal microbiota transplantation.

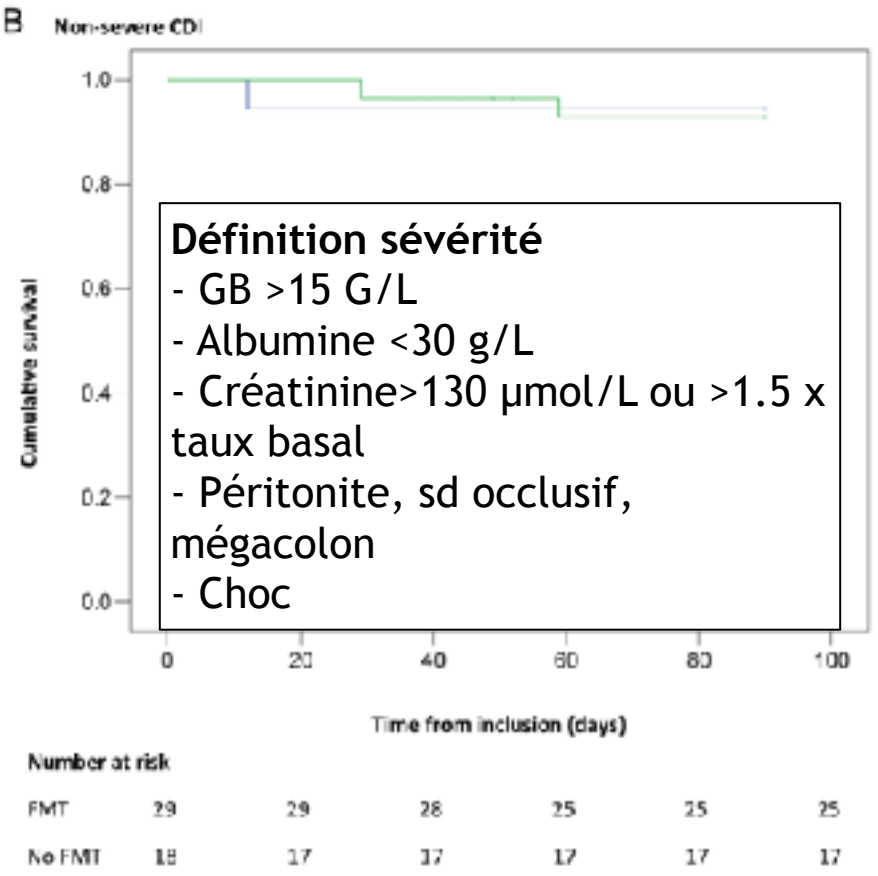
C. difficile : FMT

Early Fecal Microbiota Transplantation Improves Survival in Severe *Clostridium difficile* Infections

Hocquart M et al, Clinical Infectious Diseases 2018

Etude rétrospective monocentrique (Marseille)
Age médian 80 ans
FMT vs ttt habituel : à la discrétion de l'équipe





FMT pour *C. difficile*

La FMT en gélules

Effect of Oral Capsule- vs Colonoscopy-Delivered Fecal Microbiota Transplantation on Recurrent *Clostridium difficile* Infection A Randomized Clinical Trial Kao D *et al*, JAMA 2017	**Successful Resolution of Recurrent *Clostridium difficile* Infection using Freeze-Dried, Encapsulated Fecal Microbiota** Pragmatic Cohort Study Staley C *et al*, American Journal of Gastroenterology 2017
N = 57 ≥ 3 épisodes Randomisé vs FMT par coloscopie	N = 49 ≥ 2 épisodes, déjà eu un traitement lon Ouvert
Liquide, décongelée Vancomycine PO x 2/j jusqu'à la veille Préparation colique (PEG 4 L) À jeun > 12 heures 40 gélules (10^{13} bactéries)	Lyophilisée Antibiothérapie préalable : non Pas de préparation colique À jeun 2 heures 2-3 gélules (10^{11} bactéries)
96% de succès (absence de récidive à 3 mois)	88% de succès (absence de récidive à 2 mois)

Durability and Long-Term Clinical Outcomes of Fecal Microbiota Transplant (FMT) Treatment in Patients with Recurrent *Clostridium difficile* Infection; Mamo Y et al, Clinical Infectious Diseases 2017

Effets de la FMT « sur le long terme »

- Enquête téléphonique à distance de la FMT (délai médian 24 [3 – 51] mois)
- Avant FMT : 4 cures d'ATB [1 – 12]
- Pas de rechute chez 82% des patients (38% ont pris des ATB)

Durability and Long-Term Clinical Outcomes of Fecal Microbiota Transplant (FMT) Treatment in Patients with Recurrent *Clostridium difficile* Infection; Mamo Y et al, Clinical Infectious Diseases 2017

Effets inattendus de la FMT

Table 5: Improvement in pre-existing medical conditions in respondents to survey of patients undergoing FMT from 7/2012 – 12/2016.

Improved medical condition	N (total n = 137)*
Conditions previously or potentially associated with intestinal microbiota#	
Irritable bowel syndrome (IBS)	3
Crohn disease	2
Diverticulosis	2
Hypercholesterolemia	1
Toxic megacolon	1
Diabetes mellitus	1
Rheumatoid arthritis	1
Conditions not previously associated with intestinal microbiota	
CVID-associated infections	1
Low back pain	1
Hypertension	1

FMT – fecal microbiota transplant, CVID – common variable immunodeficiency.

Amélioration de pathologies préexistantes chez 12 patients (9%)

Durability and Long-Term Clinical Outcomes of Fecal Microbiota Transplant (FMT) Treatment in Patients with Recurrent *Clostridium difficile* Infection; Mamo Y et al, Clinical Infectious Diseases 2017

Effets inattendus de la FMT

- Prise de poids 76 patients (médiane +2,5 kg)

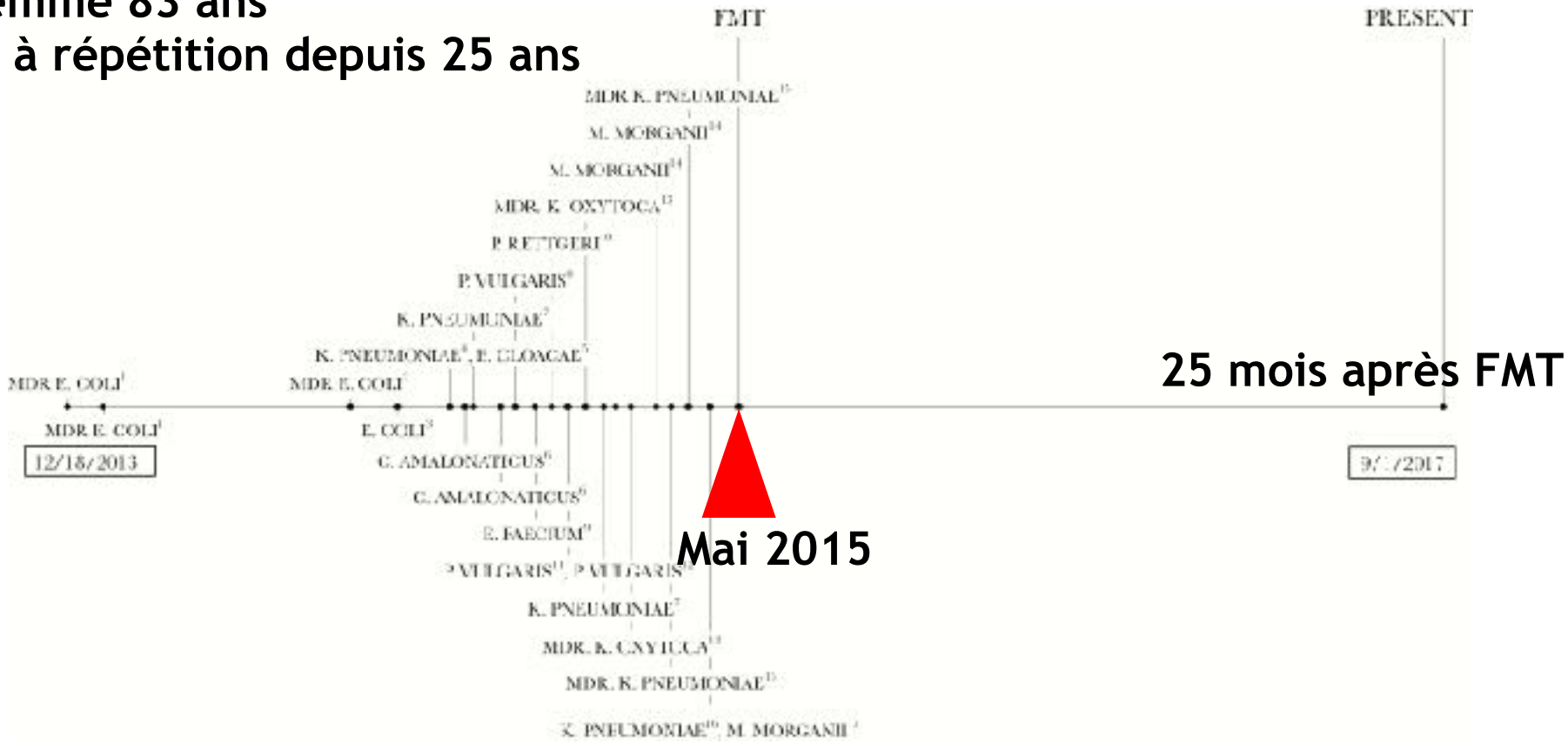
- Apparition de nouvelles affections chez 43 (36%) des patient
  - Insuffisance rénale (n = 5)
  - Hypothyroïdie (n = 2)
  - Lombalgies (n = 2)
  - Constipation (n = 3)
  - Diabète (n = 2)
  - Ulcère gastrique (n = 1)

Effets inattendus de la FMT

Fecal Microbiota Transplant for Refractory Clostridium difficile Infection Interrupts 25-Year History of Recurrent Urinary Tract Infections

Wang T *et al*, Open Forum Infectious Diseases 2018

Femme 83 ans
IU à répétition depuis 25 ans



FMT et colonisation par BMR

Is faecal microbiota transplantation an option to eradicate highly drug-resistant enteric bacteria carriage?
Davido B *et al*, Journal of Hospital Infection 2017

- 8 patients (2 ERV, 6 carbapénémases)
- 6/8 encore colonisés à 1 mois
- 4/7 encore colonisés à 3 mois

FMT et colonisation par BMR

Fecal Microbiota Transplantation in Patients With Blood Disorders Inhibits Gut Colonization With Antibiotic-Resistant Bacteria: Results of a Prospective, Single-Center Study

Bilinski J *et al*, Clinical Infectious Diseases 2017

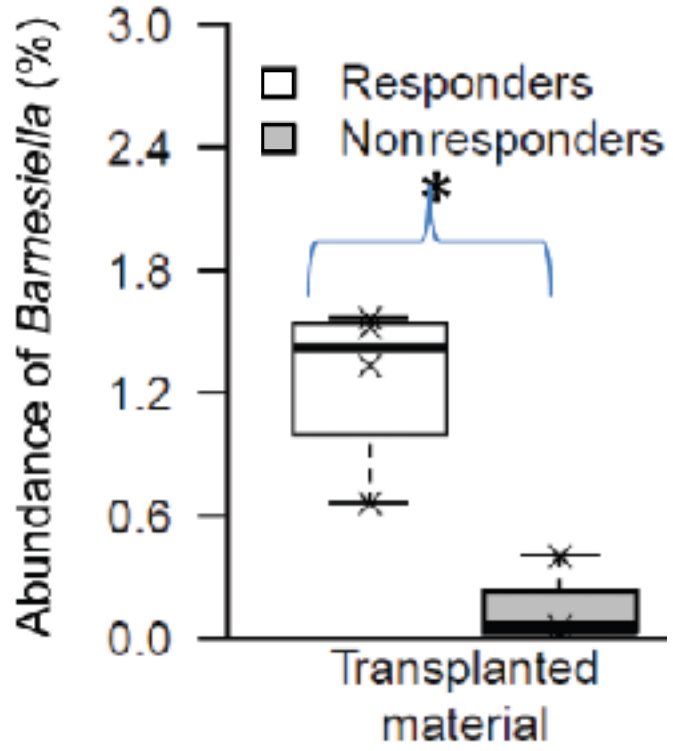
	All FMTs n = 25		With Antibiotics, n = 11		Without Antibiotics, n = 14	
Endpoint	No.	%	No.	%	No.	%
Effect on all strains of ARB per FMT (complete ARB decolonization)						
At 1 month	15/25	60	4/11	36	11/14	79
At 6 months	13/14	93	4/5	80	9/9	100
Effect on at least 1 strain of ARB per FMT (partial ARB decolonization)						
At 1 month	20/25	80	7/11	64	13/14	93
At 6 months	13/14	93	4/5	80	9/9	100

FMT et colonisation par BMR

Fecal Microbiota Transplantation in Patients With Blood Disorders Inhibits Gut Colonization With Antibiotic-Resistant Bacteria: Results of a prospective, Single-Center Study

Bilinski J *et al*, Clinical Infectious Diseases 2017

Décolonisation en fonction de l'abondance de *Barnesiella* dans le matériel transplanté



Importance du choix du donneur ?

Le futur : formulations commerciales

SER-109
Spores de donneurs PO
Phase 1 : prometteur
Phase 2 : échec vs placebo
Phase 3 : en cours

IMM-529
Phase 1 en cours

RBX2660
Donneur
Lavement
Phase 3

RBX7455
PO
Conservable à RT
Phase 1 en cours

SER-262
Synthétique PO
Phase 1b

MET-2
Donneurs
Phase 1 en cours

VE303
PO
Synthétique
Phase 1 en cours

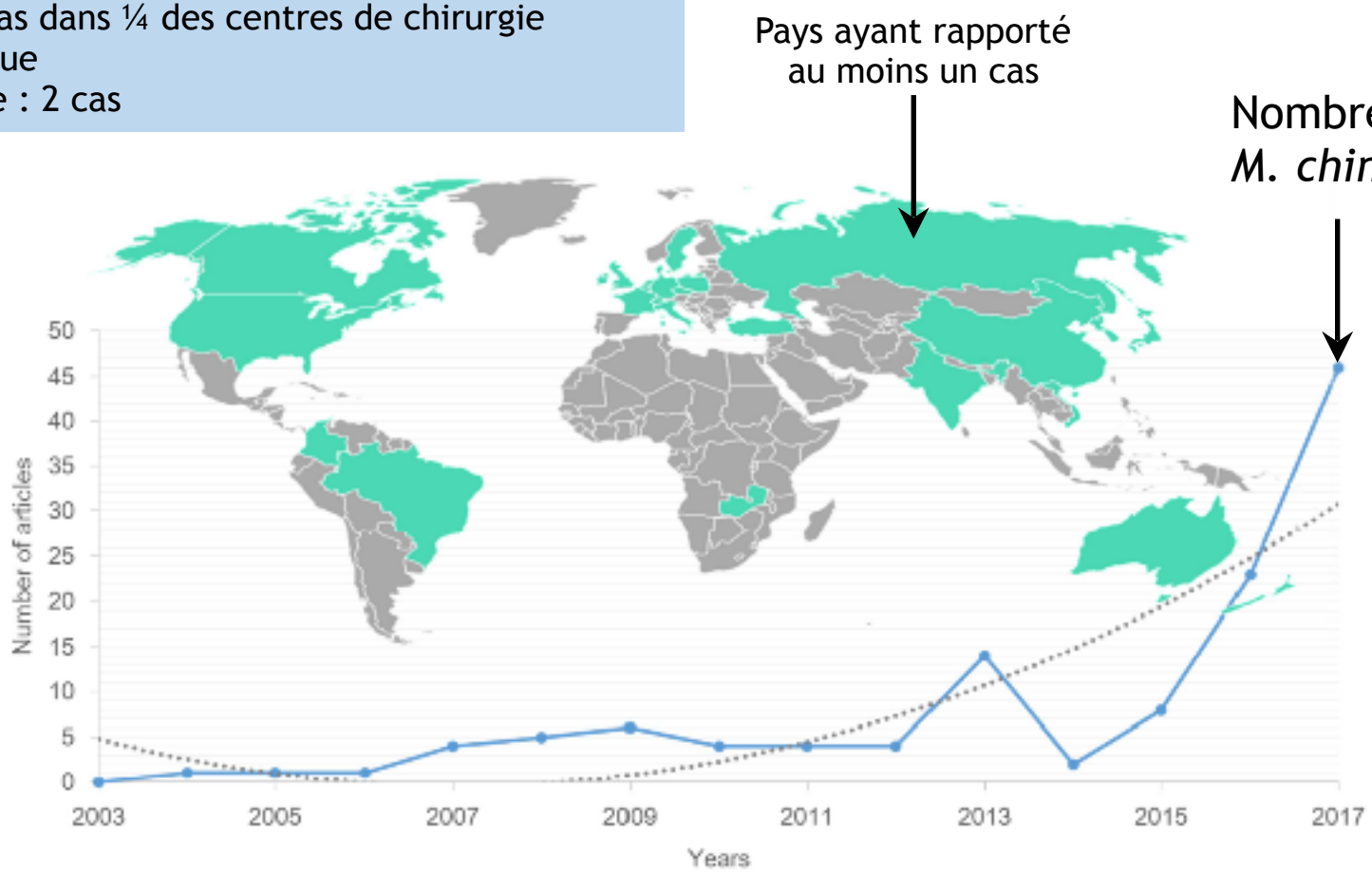
CP-101
Synthétique

De « nouveaux pathogènes »

State of the art on *Mycobacterium chimaera* research: a bibliometric analysis ; Ortiz-Martínez Y et al, The Journal of Hospital Infection

Depuis 2013 : plus de 100 cas rapportés dans le monde

- Endocardite à hémocultures négatives, révélation en moyenne 19 mois après la chirurgie
- UK : cas dans ¼ des centres de chirurgie cardiaque
- France : 2 cas

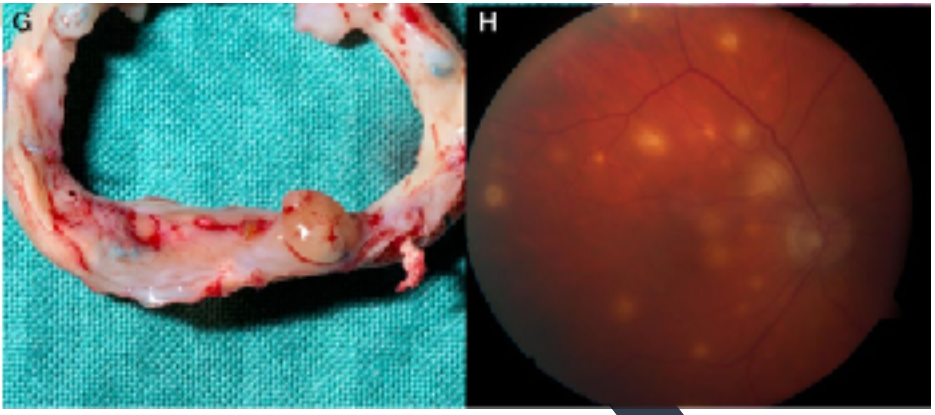


Mycobacterium chimaera

Prolonged Outbreak of *Mycobacterium chimaera* Infection After Open-Chest Heart Surgery

Sax H et al, Clinical Infectious Diseases 2015

Souches isolées de patients



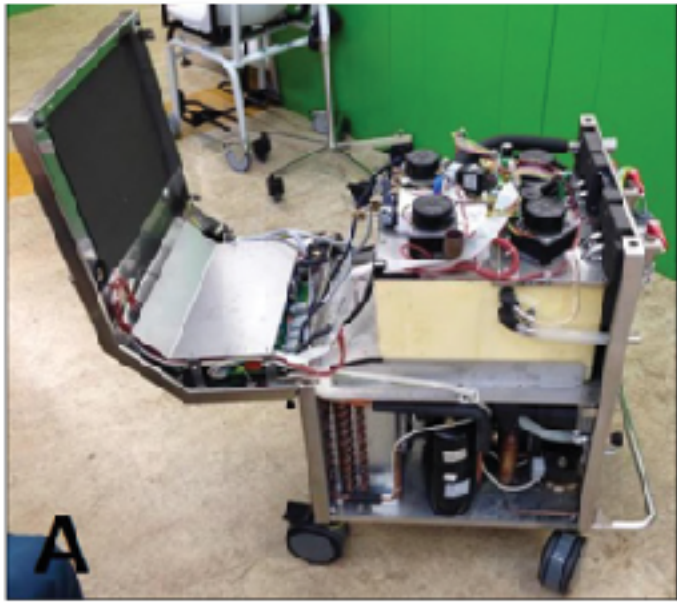
Prélèvements environnementaux

Séquençage, comparaison

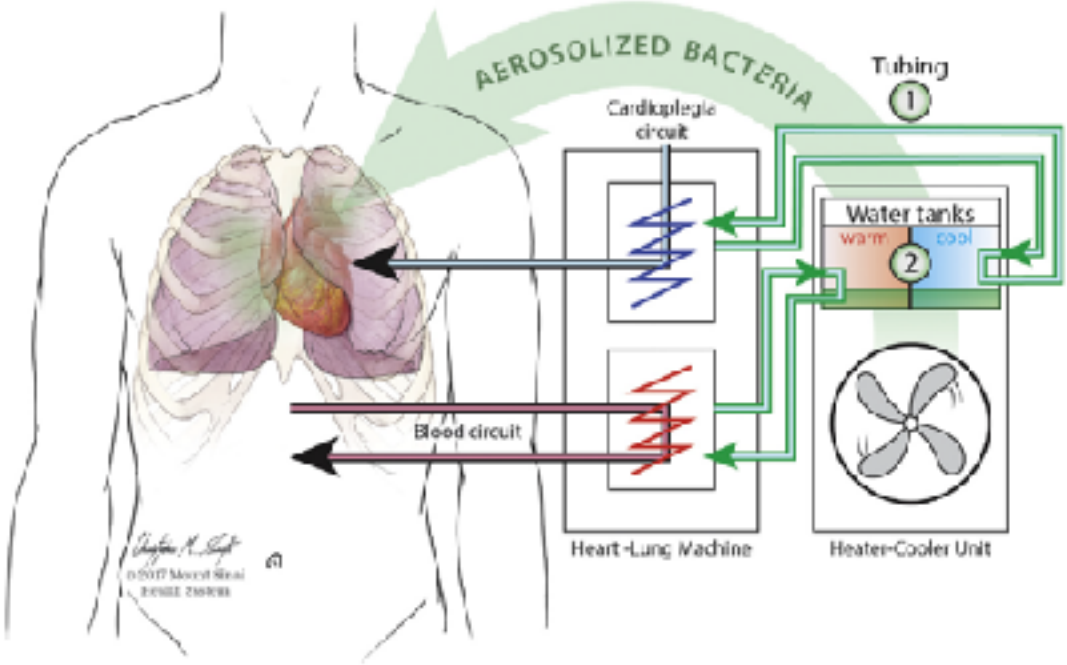
Prolonged Outbreak of *Mycobacterium chimaera* Infection After Open-Chest Heart Surgery

Sax H et al, Clinical Infectious Diseases 2015

Le responsable ?

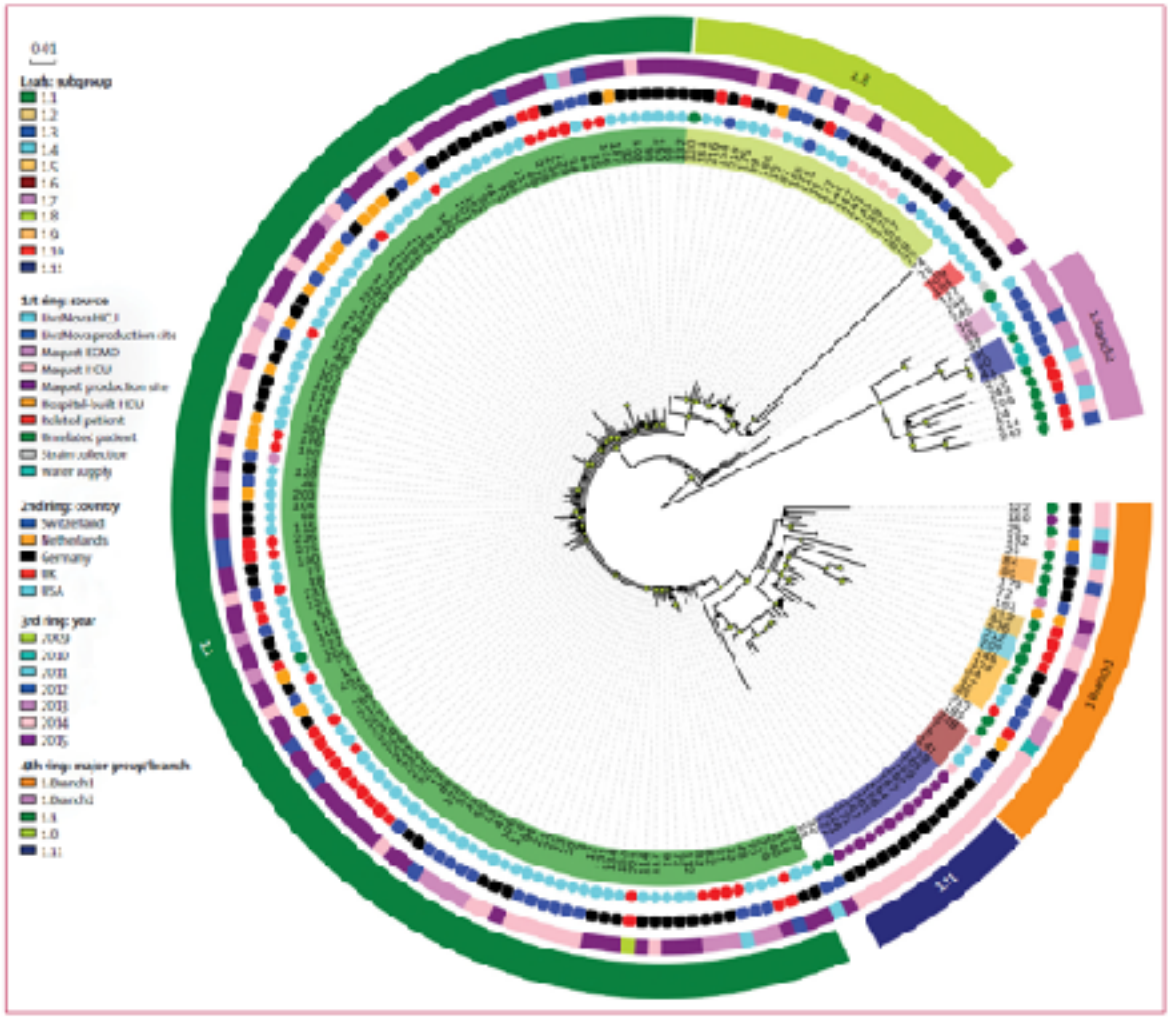


Générateur thermique



Mycobacterium chimaera

Global outbreak of severe *Mycobacterium chimaera* disease after cardiac surgery: a molecular epidemiological study ; Van Ingen J et al, Lancet Infectious Diseases 2017



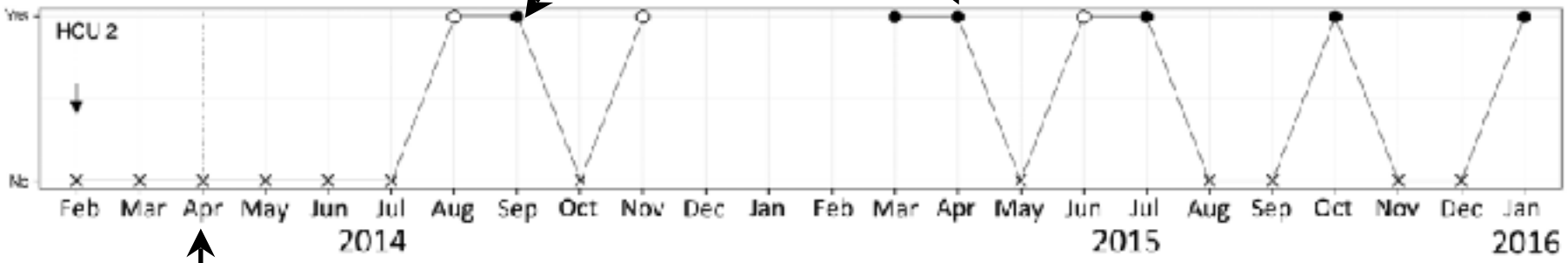
Tout vient d'une usine de production de générateurs thermiques LivaNova™ (ex-Sorin™)

Reemergence of *Mycobacterium chimaera* in Heater–Cooler Units despite Intensified Cleaning and Disinfection Protocol

Schreiber PW et al. Emerging Infectious Diseases 2016

Fin de l'histoire ?

Culture positive à *M. chimaera*



Nouveau protocole de désinfection intensive

Un bon investissement

Candida auris

Candida auris: an Emerging Fungal Pathogen. Spivak ES *et al. J Clin Microbiol* 56:e01588-17. https://doi.org/10.1128/JCM.01588-17.

- **Champignon résistant aux anti fongiques émergent**
- Epidémiologie

Situation complexe

Données CDC; Mars 2018

Candida auris

Candida auris: an Emerging Fungal Pathogen. Spivak ES *et al. J Clin Microbiol* 56:e01588-17. https://doi.org/10.1128/JCM.01588-17.

- Particularités microbiologiques : erreurs fréquentes d'identifications de *C. auris*

Biochemical method	Misidentification
All methods	*Candida haemulonii* *Candida* spp. not otherwise specified
API 20C AUX	*Candida sake* *Rhodotorula glutinis*[b]
BD Phoenix	*Candida catenulata*
MicroScan	*Candida catenulata* *Candida famata* *Candida guilliermondii*[c] *Candida lusitaniae*[c] *Candida parapsilosis*[c]
Vitek2	*Candida duobushaemulonii* *Candida famata*

Mortalité 30-60%

- Particularités thérapeutiques : Colonisation/ infection
- USA : 1) Echinocandines - 2) AmphoB si fongémie > 5j- 3) azolés (Posa> Isavuco – Pas fluco)

Infections sexuellement transmissibles

Mycoplasma genitalium

Use of Pristimycin for Macrolide-Resistant *Mycoplasma genitalium* Infection Read TRH *et al.* EID 2018; 24:328-335

- **114 Patients - infections à *Mycoplasma genitalium* traités par pristinamycine**
- **Centre de santé sexuelle - Melbourne, Australie - 2012–2016**

Table 2. *Mycoplasma genitalium* infections among 114 patients cured after 10 days of pristinamycin treatment, Melbourne Sexual Health Centre, Melbourne, Victoria, Australia, 2012–2016

Subgroup	Pristinamycin failure, no. (%)	Cured, no. (%, 95% CI)	p value*
Overall	29 (25)	85 (75, 66–82)	
Dosage regimen			
Pristinamycin 2 g/d	2 (22)	7 (78, 40–97)	0.91
Pristinamycin 3 g with doxycycline 200 mg/d	14 (26)	40 (74, 60–85)	
Pristinamycin 4 g/d	13 (25)	38 (75, 60–86)	
Site of infection			
Urethral infection, M	22 (29)	55 (71, 60–81)	0.20
Anorectal infection	4 (14)	24 (86, 67–96)	
Patient sex			
F	3 (27)	8 (73, 39–94)	1.0
M	26 (25)	77 (75, 65–83)	
Patient signs/symptoms			
Symptomatic	28 (29)	70 (71, 61–80)	0.07
Asymptomatic	1 (6)	15 (94, 70–100)	

Seul facteur indépendant d'échec : Bacterial load : a OR = 1,9 [1,2-2,9] ; p < 0,01

Mycoplasma genitalium

Fluoroquinolone-Resistant Mycoplasma genitalium, Southwestern France. *Le Roy C et al.* EID 2016 22: 1677 - 1679

- Prévalence infection *M. genitalium* ≈ 4% en 2013–2014 Bordeaux
- Etude rétrospective - CHU Bordeaux
- 344 patients avec prélèvements urogénitaux + *M. genitalium*

- **Résistance aux macrolides (23S r RNA mutations) : 17,20%**
- **Résistance aux fluoroquinolones (changement acide aminés dans GyrA & ParC) : 6%**

Mycoplasma genitalium

2016 European guideline on *Mycoplasma genitalium* infections. Jensen JS *et al.* JEADV 2016, 30, 1650–1656

Recommended treatment for uncomplicated *M. genitalium* infection in the absence of macrolide resistance mediating mutations [IIb; B]

- Azithromycin 500 mg on day one, then 250 mg od days 2–5 (oral).
- Josamycin 500 mg three times daily for 10 days [IV; C].

Recommended treatment for uncomplicated macrolide-resistant *M. genitalium* infection [IIb;B]

- Moxifloxacin 400 mg od for 7–10 days (oral). The optimal duration of treatment is uncertain and a few observational studies have found higher cure rate after longer treatment in cervicitis.[57]

Recommended second-line treatment for uncomplicated persistent *M. genitalium* infection [IIb; B]

- Moxifloxacin 400 mg od for 7–10 days (oral).

Recommended third-line treatment for persistent *M. genitalium* infection after azithromycin and moxifloxacin [III; B]

- Doxycycline 100 mg two times daily for 14 days can be tried and will eradicate *M. genitalium* from approximately 30% of the patients, but the patient must be informed about the poor eradication rate and accept to comply with advice regarding sexual abstinence or condom use.
- Pristinamycin 1 g four times daily for 10 days (oral). The patient should be informed about the need to comply strictly with the dosage scheme.

Recommended treatment for complicated *M. genitalium* infection (PID, epididymitis) [IV; C]

- Moxifloxacin 400 mg od for 14 days (oral).[60]

Prophylaxie post exposition (PEP) par Doxycycline

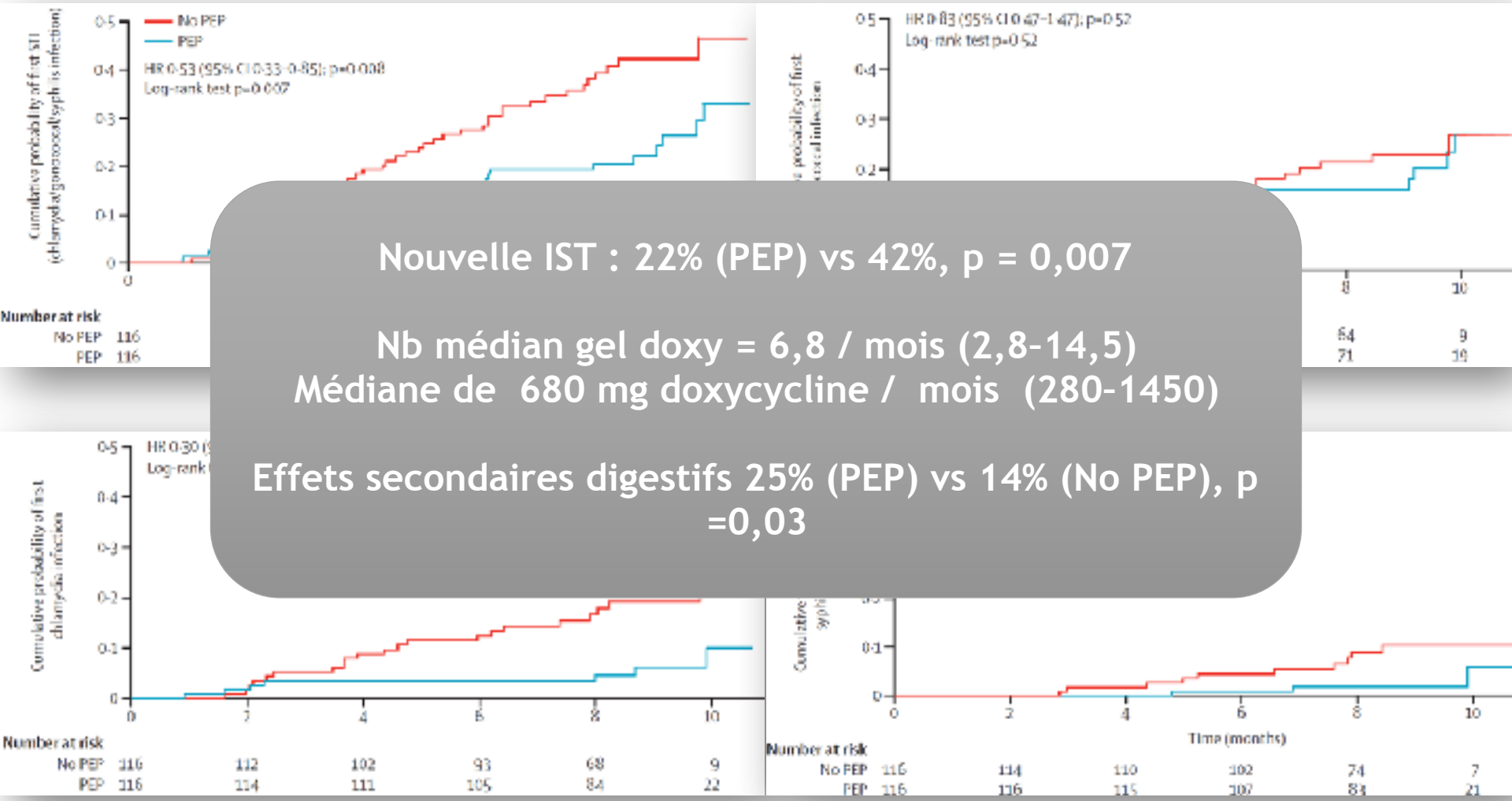
Post-exposure prophylaxis with doxycycline to prevent sexually transmitted infections in men who have sex with men: an open-label randomised substudy of the ANRS IPERGAY trial. Molina JM *et al. Lancet Infect Dis* 2017

- **Population éligible : HSH ≥18 ans – RSNP – PreP (Essai ANRS HYPERGAY) – 2015 - 2016**
- **Essai randomisé : PEP Doxy 200 mg dans les 24H / RS (N=116) *vs* pas de PEP (N=116)**

	PEP (N=116)	No PEP (N=116)
Age médian	38 (33-48)	39 (32-44)
18 -24 ans	0 (0%)	5 (4%)
25-29 ans	12 (10%)	11 (10%)
30-39 ans	47 (41%)	41 (35%)
40-49 ans	31 (27%)	44 (38%)
> 49 ans	26 (22%)	15 (13%)
Drogues récréatives	49 (42%)	49 (42%)
Nb partenaires (≤ 2 mois)	10 (5-15)	10 (5-20)
Nb RS (≤ 4 Sem)	10 (5-15)	10 (4-20)
Nb circoncis	28 (24%)	21 (18%)
Nb IST dg au screening	22 (19%)	16 (14%)

Prophylaxie post exposition (PEP) par Doxycycline

Post-exposure prophylaxis with doxycycline to prevent sexually transmitted infections in men who have sex with men: an open-label randomised substudy of the ANRS IPERGAY trial. Molina JM *et al. Lancet Infect Dis* 2017



Nouvelle IST : 22% (PEP) vs 42%, p = 0,007

Nb médian gel doxy = 6,8 / mois (2,8-14,5)
Médiane de 680 mg doxycycline / mois (280-1450)

Effets secondaires digestifs 25% (PEP) vs 14% (No PEP), p =0,03

Merci pour votre attention