

Dans quelles situations proposer une traitement court ?

Aurélien Dinh

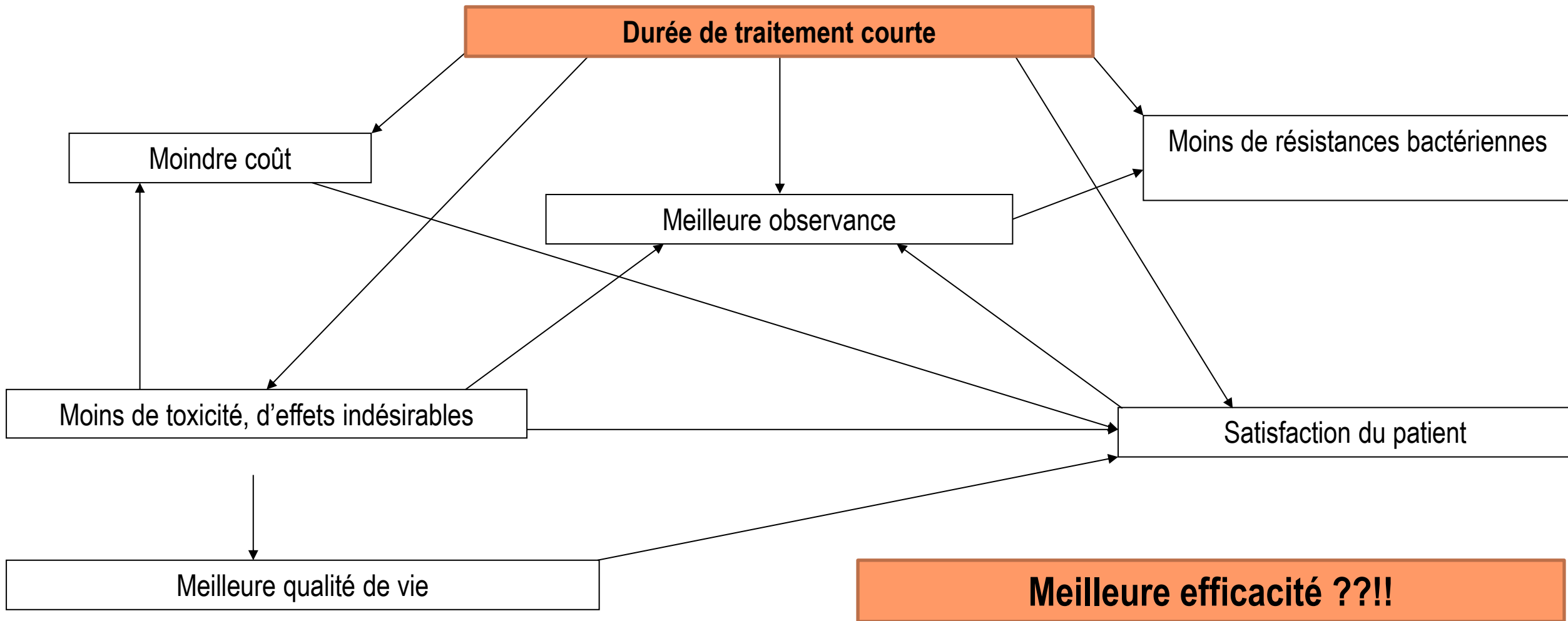
Unité des maladies infectieuses, Maladies
infectieuses et tropicales, Garches, APHP

Angoisses/questions

- **Qu'est ce que c'est « court » ?**
- **Double inquiétude sur le « débat »**
 - Eric Senneville
 - Ne pas tomber dans la facilité
- **Aborder le contrepoint**



Bénéfices supposés (fantasmés)



Résistances bactériennes

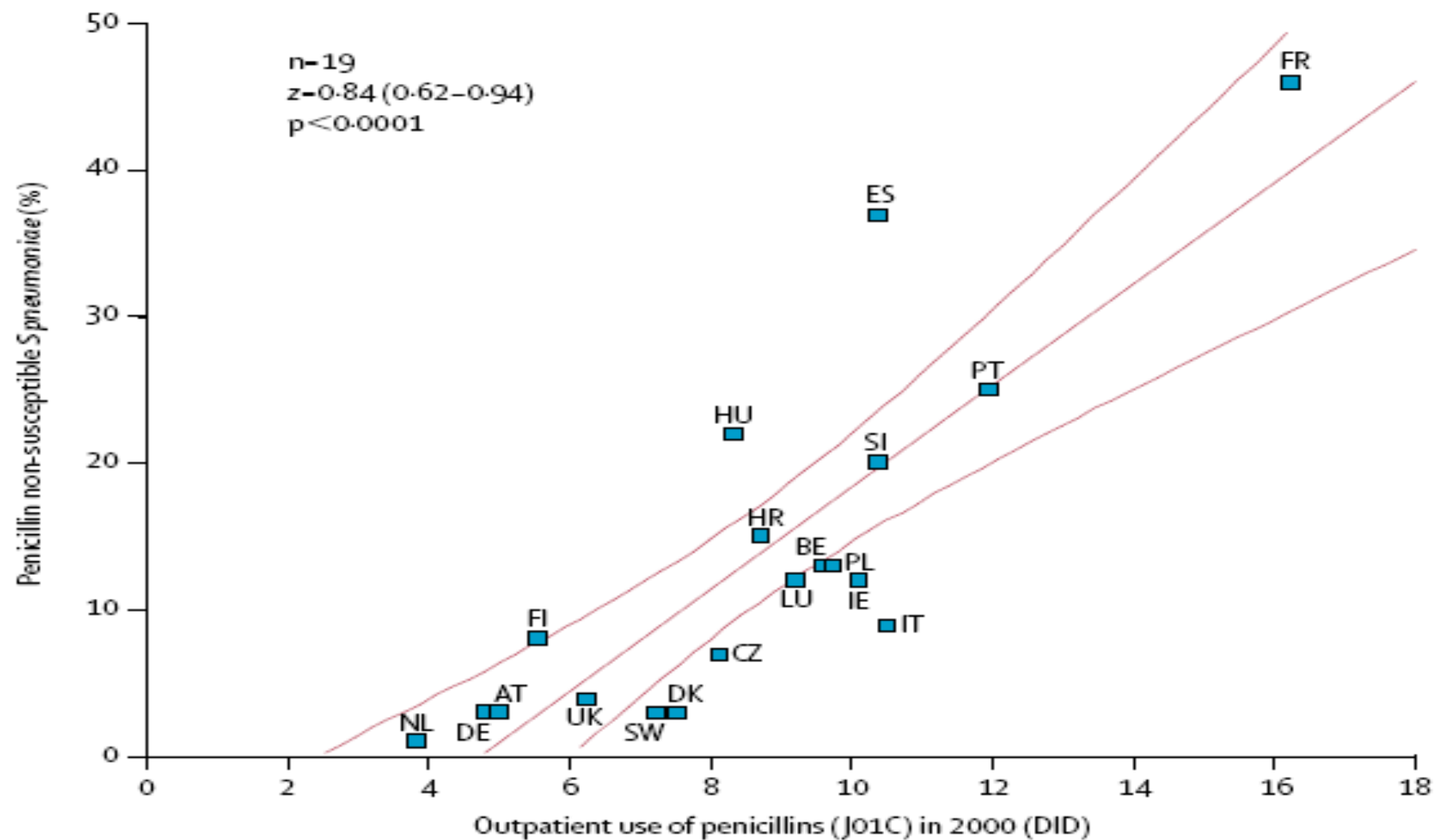


Figure 6: Correlation between penicillin use and prevalence of penicillin non-susceptible *S pneumoniae*
 AT, Austria; BE, Belgium; HR, Croatia; CZ, Czech Republic; DK, Denmark; FI, Finland; FR, France; DE, Germany;
 HU, Hungary; IE, Ireland; IT, Italy; LU, Luxembourg; NL, The Netherlands; PL, Poland; PT, Portugal; SI, Slovenia;
 ES, Spain; UK, England only.

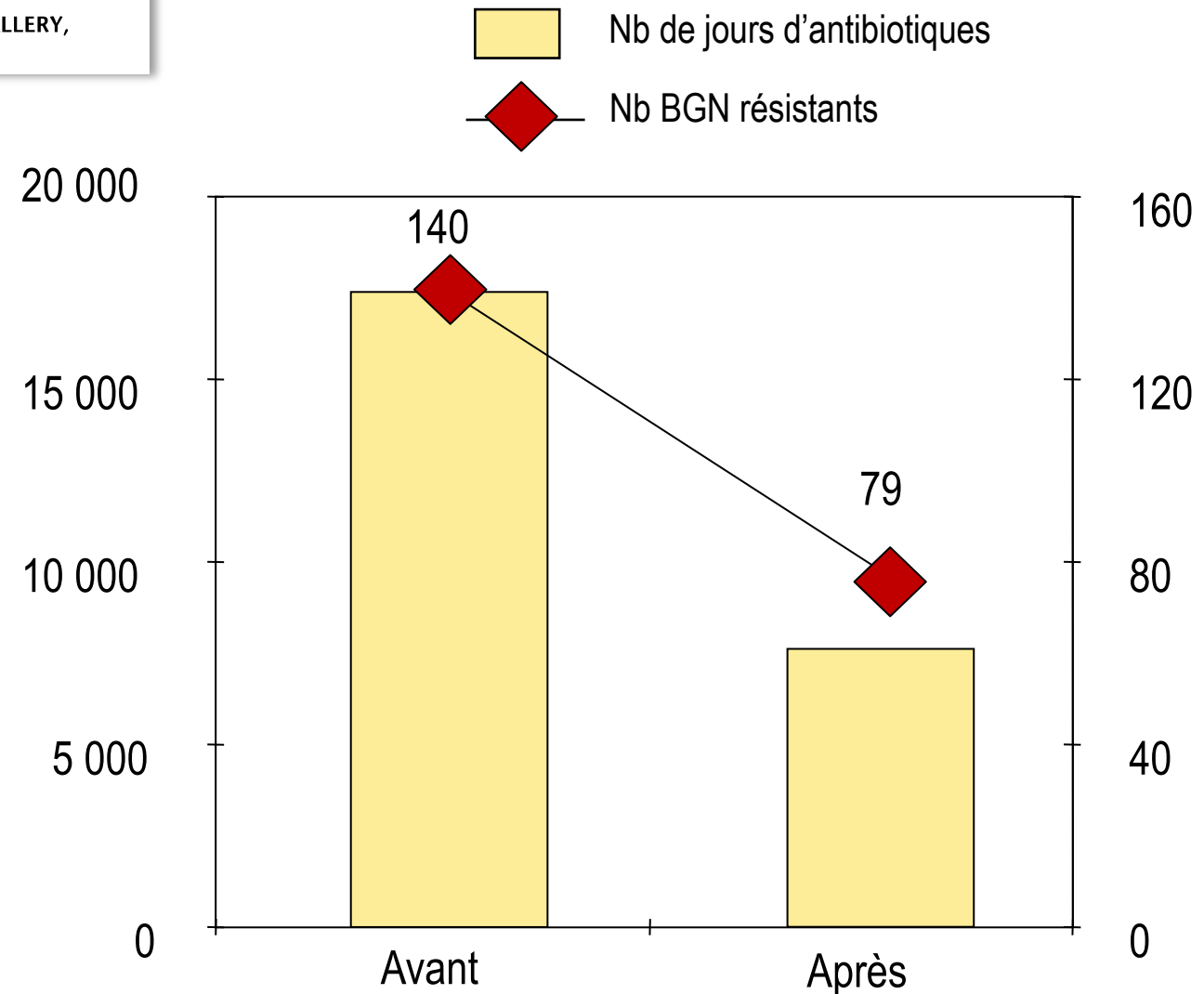
Rotation and Restricted Use of Antibiotics in a Medical Intensive Care Unit

Impact on the Incidence of Ventilator-associated Pneumonia Caused by Antibiotic-resistant Gram-negative Bacteria

DIDIER GRUSON, GILLES HILBERT, FREDERIC VARGAS, RUDDY VALENTINO, CECILE BEBEAR, ANNIE ALLERY, CHRISTIANE BEBEAR, GEORGES GBIKPI-BENISSAN, and JEAN-PIERRE CARDINAUD

- **Etude avant/après en réanimation (3455 patients) sur 4 ans**
- **Intervention**
 1. Restriction ceftazidime et ciprofloxacine
 2. Rotation d'antibiotiques
 3. Supervision des prescriptions par deux investigateurs

"with an appropriate control of dosing and duration of treatment."

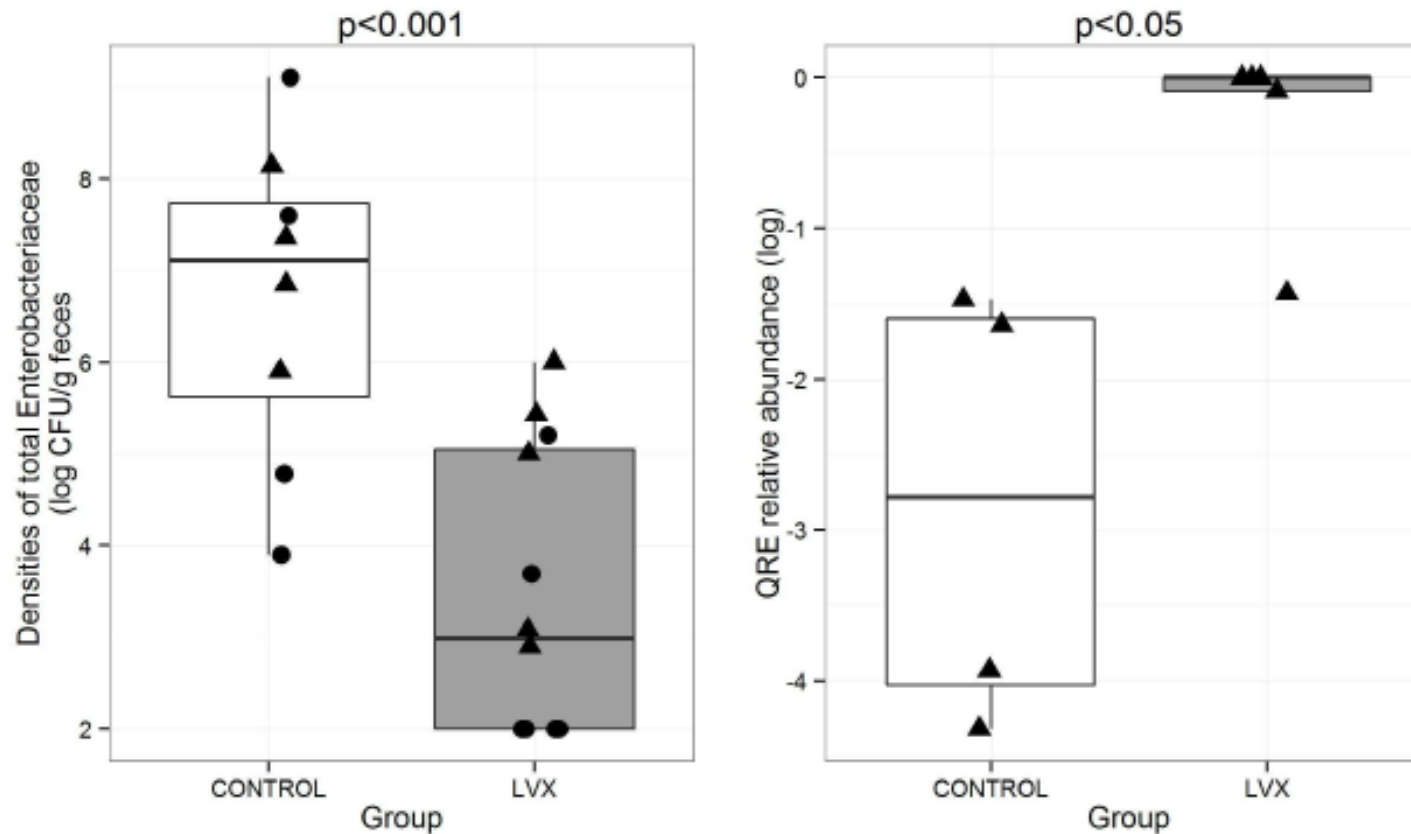


Impact of a short exposure to levofloxacin on faecal densities and relative abundance of total and quinolone-resistant *Enterobacteriaceae*

Julien Bernard, Laurence Armand-Lefèvre, Elsa Luce, Assiya El Mniai, Françoise Chau, Enrique Casalino, Antoine Andreumont, Etienne Ruppé



Emergence précoce (< J3 lévofloxacine) d'entérobactéries FQ-R



Comparison of 8 vs 15 Days of Antibiotic Therapy for Ventilator-Associated Pneumonia in Adults

A Randomized Trial

Jean Chastre, MD

Michel Wolff, MD

Jean-Yves Fagon, MD

Sylvie Chevret, MD

Franck Thomas, MD

Delphine Wermert, MD

Eva Clementi, MD

Jesus Gonzalez, MD

Dominique Jusserand, MD

Pierre Asfar, MD

Dominique Perrin, MD

Fabienne Fieux, MD

Sylvie Aubas, MD

for the PneumA Trial Group

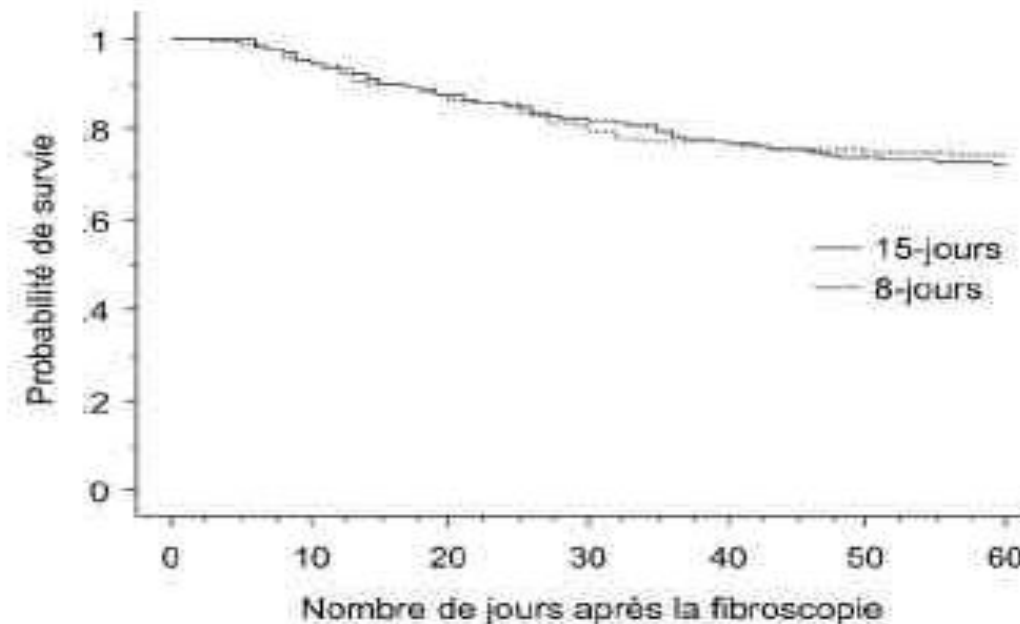


Fig. 2. Probabilité de survie (courbes de Kaplan-Meier) en fonction de la durée de traitement antibiotique (8 vs 15 jours) d'une pneumonie acquise sous ventilation mécanique [16].

Notably, among patients who developed recurrent pulmonary infections, **multiresistant pathogens emerged significantly less frequently** in those who had received 8 days of antibiotics (42.1% vs 62.3% of recurrent infections; $P=.04$).

Effets indésirables

Antibiotic treatment for 6 weeks versus 12 weeks in patients with pyogenic vertebral osteomyelitis: an open-label, non-inferiority, randomised, controlled trial

Louis Bernard, Aurélien Dinh, Idir Ghout, David Simo, Valerie Zeller, Bertrand Issartel, Vincent Le Moing, Nadia Belmatoug, Philippe Lesprit, Jean-Pierre Bru, Audrey Therby, Damien Bouhour, Eric Dénes, Alexa Debard, Catherine Chirouze, Karine Fèvre, Michel Dupon, Philippe Aegerter, Denis Mulleman, on behalf of the Duration of Treatment for Spondylodiscitis (DTS) study group*

	6-week regimen (n=176)	12-week regimen (n=175)	Total (n=351)	p value
Back pain at 1 year	44/145 (30%)	41/138 (30%)	85/283 (30%)	1
Fever at 1 year (no=0, yes=1)	0	1 (1%)	1 (<1%)	0.48
C-reactive protein concentration at 1 year, mg/L	4.2 (1.9-7.2)	3.2 (1.8-6)	4 (1.8-6.3)	0.22
Adverse events	51 (29%)	50 (29%)	101 (29%)	1
Death	14 (8%)	12 (7%)	26 (7%)	0.85
Cardiorespiratory failure	7 (4%)	12 (7%)	19 (5%)	0.33
Digestive tract bleeding	4 (2%)	2 (1%)	6 (2%)	0.68
<i>Clostridium difficile</i> infection	2 (1%)	2 (1%)	4 (2%)	1
Antibiotic intolerance	12 (7%)	9 (5%)	21 (6%)	0.66
Other infection (not vertebral osteomyelitis)	5 (3%)	7 (4%)	12 (3%)	0.76
Device infection	1 (1%)	2 (1%)	3 (1%)	0.62
Neurological complications	7 (4%)	3 (2%)	10 (3%)	0.34
Endocarditis	3 (2%)	4 (2%)	7 (2%)	0.72

Original Investigation

Risk of Aortic Dissection and Aortic Aneurysm in Patients Taking Oral Fluoroquinolone

Chien-Chang Lee, MD, ScD; Meng-tse Gabriel Lee, PhD; Yueh-Sheng Chen, MD; Shih-Hao Lee, MA; Yih-Sharnng Chen, MD, PhD; Shyr-Chyr Chen, MD, MBA; Shan-Chwen Chang, MD, PhD

- Etude cas témoins apparié
- 147 700 contrôles
- Data base Assurance maladie Taiwan
- 1 M de personnes suivi de 2000 à 2011
- Prescription de FQ dans l'année précédente
- Risque d'anévrisme et dissection aortique

Duration of Fluoroquinolone Use, d	Case/Person-years, No. (Incidence Rate, %)	Propensity Score-Adjusted Rate Ratio (95% CI)
<3 [Reference]	1432/147 495 (0.97)	1 [Reference]
3-14	33/1271 (2.60)	1.60 (1.10-2.52) ^a
>14	12/411 (2.92)	1.81 (0.91-3.17)

Epidemiology of adverse events and *Clostridium difficile*-associated diarrhea during long-term antibiotic therapy for osteoarticular infections[☆]

Maximilian Schindler^{a,b}, Louis Bernard^{a,d}, Wilson Belaieff^a, Axel Gamulin^a, Guillaume Racloz^a, Stéphane Emonet^c, Daniel Lew^c, Pierre Hoffmeyer^a, Ilker Uçkay^{a,c,*}

- Etude de cohorte (1996-2011)
- Monocentrique
- 393 IOA
- Durée médiane ATB 8 semaines
- 115 (29%) EI : diarrhées, nausées, cholestase, rash, mycose
- 41 EIG >> arrêt/modif ATB
- FDR associé aux EI : durée ATB > 6 semaines

Table 2 Comparisons within the study population (n = 393 episodes).

	No adverse events n = 278	p ^a	Adverse events n = 115	p ^a	<i>C. difficile</i> infection n = 14
Female gender	99 (36%)	0.001	61 (53%)	ns	9 (64%)
Age over 65 years	139 (50%)	0.001	79 (69%)	ns	9 (64%)
Immune suppression ^b	75 (27%)	0.007	47 (41%)	ns	7 (50%)
ATB duration >6 wks	150 (54%)	0.006	81 (70%)	0.023	11 (79%)
IV ATB duration >2 wks	118 (42%)	0.026	63 (55%)	ns	9 (64%)
Anaerobic coverage of ATB	105 (38%)	ns	45 (39%)	ns	6 (43%)
Use of vancomycin	112 (40%)	0.005	64 (56%)	ns	6 (43%)
Vancomycin >10 days	58 (21%)	0.005	39 (34%)	ns	4 (29%)
Carbapenem use	96 (35%)	ns	55 (48%)	ns	5 (36%)
Rifampicin use	115 (41%)	ns	52 (45%)	0.03	2 (14%)
Clindamycin use	65 (23%)	ns	20 (17%)	ns	4 (29%)
Amoxicillin/clavulanate use	45 (16%)	ns	18 (16%)	ns	1 (7%)
Quinolone use	113 (41%)	ns	43 (37%)	ns	3 (21%)

Coût

- **ATB = médicament pas très cher**
 - **Incontestable mais problème du packaging**
 - **Coût des EIG**
 - **Quel coût si non efficace ?**
- >> Pas d'étude !?!**



Quelles durées sont recommandées ?

Recommandation de bonne pratique
 Prothèse de hanche ou de genou :
 diagnostic et prise en charge de l'infection
 dans le mois suivant l'implantation

Mars 2014

Diagnosis and Management of Prosthetic Joint
 Infection: Clinical Practice Guidelines by the
 Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹
 Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

Durée totale d'antibiothérapie



Recommandation 27

AE

Il est recommandé de traiter entre 6 semaines et 3 mois.
 Il n'est pas recommandé de prolonger le traitement au-delà de 3 mois.

SI PJI à Staph aureus : 3 (PTH) à 6 mois (PTG)
 Si autre pathogène : 6 semaines



Recommandations de pratique clinique
Infections ostéo-articulaires sur matériel
 (prothèse, implant, ostéosynthèse)

Il est recommandé d'administrer le traitement antibiotique pour une durée minimale de 6 semaines. Les durées usuelles rapportées dans la littérature sont de **6 à 12 semaines**. La poursuite de l'antibiothérapie au-delà de 12 semaines doit être argumentée (**avis d'expert**).

Quel niveau de preuve ?

CLINICAL PRACTICE

Infection Associated with Prosthetic Joints

Jose L. Del Pozo, M.D., Ph.D., and Robin Patel, M.D.

AREAS OF UNCERTAINTY

Although surgical intervention is generally recommended, the optimal surgical strategy in a given patient remains controversial. Likewise, the optimal antimicrobial regimen and its duration are incompletely defined. The optimal care for patients who are initially thought to have aseptic failure but who have intraoperative culture results that suggest infection is also uncertain; although a variety of medical treatments have been successful, further studies are needed to identify patients who can be treated with oral antimicrobial agents alone and those who may not need medical treatment.⁴⁸

**Antibiotics for treating chronic osteomyelitis
in adults
(Review)**

**Conterno LO, da Silva Filho CR
COCHRANE DATA BASE**

“No trials compared different durations of antibiotic treatment for chronic osteomyelitis”

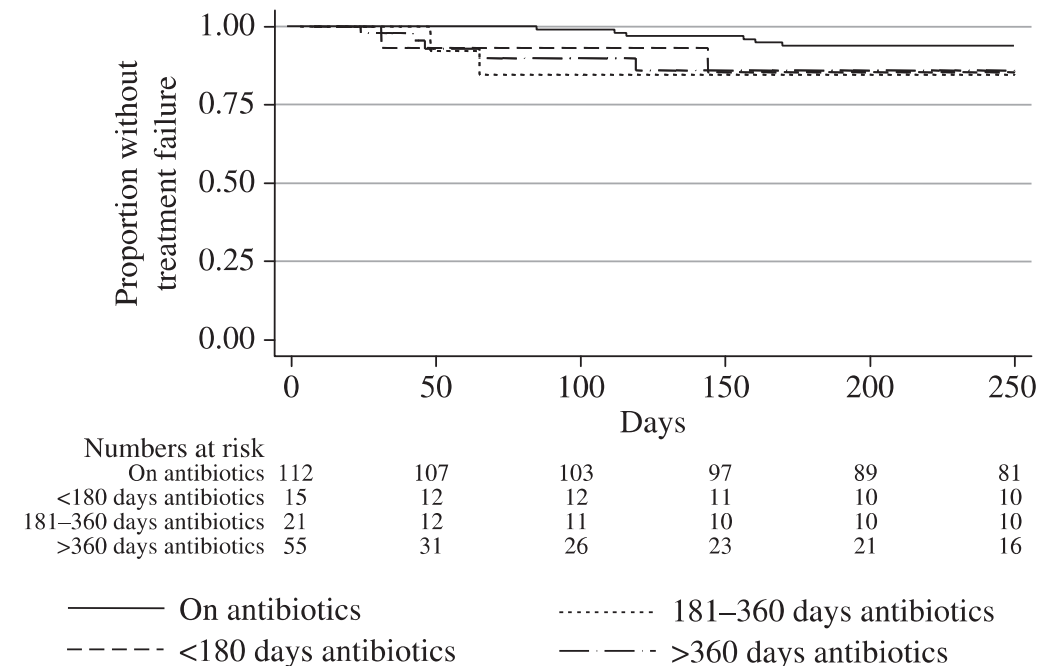
One hundred and twelve infected arthroplasties treated with 'DAIR' (debridement, antibiotics and implant retention): antibiotic duration and outcome

I. Byren^{1,2*} †, P. Bejon^{1,2†}, B. L. Atkins¹⁻³, B. Angus², S. Masters¹, P. McLardy-Smith¹, R. Gundle¹ and A. Berendt¹

- PJI DAIR
- Etude rétrospective monocentrique (5 ans)
- 112 cas
- 18% échec septique,
- Suivi moyen 2,3 ans
- Durée moyenne de traitement 1,5 an
- Peu d'échec sous traitement mais même taux d'échec à l'arrêt
- L'ATB permet de repousser la date d'échec

Table 2. Multiple Cox regression model of significant factors from univariate analysis

	Hazard ratio	95% CI	P
Implant to debridement ≥ 90 days	1.1	0.31–3.8	0.89
Intravenous antibiotics ≥ 28 days	0.49	0.18–1.37	0.18
Arthroscopy versus open	4.2	1.5–12.5	0.008
<i>S. aureus</i>	2.9	1.0–8.4	0.050
Revised versus primary arthroplasty	3.1	1.2–8.3	0.008
Presence of co-morbidity	1.81	0.55–5.9	0.32



Short-course antibiotics for prosthetic joint infections treated with prosthesis retention

A.-P. Puhto^{1*}, T. Puhto^{2*} and H. Syrjala²

- PJI with DAIR
- Réduction de 6 à 3 mois >>PTG
- Réduction de 3 à 2 mois >>PTH
- Etude rétrospective avant/après : 2001-2006/2006-2009
- 132 patients
- Succès 89,5% vs 87,5%
- Suivi moins long dans bras court !

	Intention-to-treat analysis			Per protocol analysis		
	Long antibiotic treatment 2/2001–3/2006 (n = 60)	Short antibiotic treatment 4/2006–8/2009 (n = 72)	p	Long antibiotic treatment 2/2001–3/2006 (n = 38)	Short antibiotic treatment 4/2006 – 8/2009 (n = 48)	p
Age, mean ± SD	67 ± 10.0	69 ± 10.2	0.28	65 ± 9.9	70 ± 10.4	0.033
Male	29 (48%)	31 (43%)	0.54	18 (47%)	21 (44%)	0.74
Type of prosthesis						
TKA	40 (67%)	37 (51%)	0.08	27 (71%)	27 (56%)	0.29
THA	20 (33%)	35 (49%)	0.08	11 (29%)	21 (44%)	0.16
Revision	10 (17%)	21 (29%)	0.13	6 (16%)	14 (29%)	0.15
BMI, mean ± SD	31 ± 6.5	32 ± 7.0	0.44	31 ± 7.5	31 ± 6.6	0.7
ASA, mean ± SD	2.7 ± 0.5	2.8 ± 0.5	0.21	2.7 ± 0.6	2.9 ± 0.5	0.1
Diabetes mellitus	13 (22%)	17 (24%)	0.79	6 (16%)	13 (27%)	0.21
Rheumatoid arthritis	13 (22%)	7 (10%)	0.046	9 (25%)	7 (15%)	0.23
Anticoagulant treatment (warfarin)	13 (22%)	14 (19%)	0.75	10 (26%)	10 (21%)	0.55
Type of infection						
Early postoperative ^a	32 (53%)	44 (61%)	0.37	22 (58%)	35 (73%)	0.14
Acute haematogenous ^b	18 (30%)	17 (24%)	0.41	11 (29%)	9 (19%)	0.27
Chronic ^c	10 (17%)	11 (15%)	0.83	5 (13%)	4 (8%)	0.47
Duration of symptoms, days, median (25th–75th percentile)	4 (2–10)	4 (2–7)	0.47	5.5 (3–10)	4 (2–7)	0.7
Sinus tract	8 (13%)	3 (4%)	0.058	6 (16%)	1 (2%)	0.02
CRP, mg/l, median (25th–75th percentile)	107 (38–228)	51 (20–180)	0.043	76 (34–243)	36.5 (19–190)	0.145
Leukocyte count, 10 ⁹ cells/l, median (25th–75th percentile)	10.2 (7.3–14.4)	8.8 (7–11.9)	0.28	8.8 (6.4–13.3)	8.7 (6.7–10.3)	0.28
Body temperature, °C, mean	37.8 ± 1.3	37.3 ± 0.7	0.007	37.4 ± 1.2	37.2 ± 0.6	0.32
Positive microbiological culture in the first debridement	55 (93%)	67 (94%)	0.79	34 (92%)	46 (96%)	0.44
Positive blood culture	10 (17%)	14 (19%)	0.69	7 (18%)	7 (15%)	0.60
Follow-up time, months, median (25th–75th percentile)	41.5 (18–62)	18 (15–29)	<0.001	53.5 (20–71)	22.5 (15–37)	<0.001
Failure	26 (43%)	30 (42%)	0.85	4 (11%)	6 (13%)	0.78
TKA	16 (40%)	14 (39%)	0.85	3 (11%)	4 (15%)	0.5
THA	10 (50%)	16 (46%)	0.76	1 (9%)	2 (10%)	0.73
Antibiotic treatment duration, days, median (25th–75th percentile)	NR	NR		171.5 (88–189)	88 (63–92)	<0.001
TKA	NR	NR		181 (166–194)	92 (89–97)	0.002
THA	NR	NR		87 (48–115)	61 (58–69)	0.01

Six weeks of antibiotic treatment is sufficient following surgery for septic arthroplasty[☆]

Louis Bernard^{a,d}, Laurence Legout^a, Line Zürcher-Pfund^a, Richard Stern^a, Peter Rohner^b, Robin Peter^a, Mathieu Assal^a, Daniel Lew^c, Pierre Hoffmeyer^a, Ilker Uçkay^{a,c,*}

- Etude prospective observationnel non randomisée (1996-2007)
- 144 PJI (62 PTH, 62 PTG, 20 PIH)
- 60 DAIR, 10 chgt 1 temps, 57 chgt 2 temps, 17 arthroèses
- Traitement 6 ou 12 semaines (aléatoire)

Table 1 Group comparison of 6 vs. 12 week's antimicrobial therapy.

	Six weeks <i>n</i> = 70	Twelve weeks <i>n</i> = 74
Patients characteristics		
Female sex	38 (51%)	37 (53%)
Median age	76 years	78 years
Diabetes mellitus	14 (20%)	15 (20%)
Chronic alcoholism	8 (11%)	8 (11%)
Active neurologic disease	11 (16%)	11 (15%)
Other immunosuppression	8 (11%)	9 (12%)
Initial arthroplasty		
Hip joint	40 (57%)	42 (58%)
Due to osteoarthritis	43 (61%)	52 (70%)
Due to fracture	17 (24%)	14 (19%)
Median no. of prior surgeries before infection	1 surgery	1 surgery
Infection		
Median time delay arthroplasty–infection	11 weeks	12 weeks
Median delay symptomatic disease–surgery	1 week	1 week
Early infection (≤ 3 months)	22 (31%)	21 (28%)
Late infection (> 12 months)	35 (50%)	36 (49%)
Median total leukocyte count before antibiotics	7 G/L	6 G/L
Median C-reactive protein level before antibiotics	76 mg/L	100 mg/L
Radiological loosening of implant	24 (38%)	19 (28%)
Sinus tract	17 (24%)	18 (24%)
Positive blood cultures	16 (23%)	18 (25%)

Six weeks of antibiotic treatment is sufficient following surgery for septic arthroplasty[☆]

Louis Bernard^{a,d}, Laurence Legout^a, Line Zürcher-Pfund^a, Richard Stern^a, Peter Rohner^b, Robin Peter^a, Mathieu Assal^a, Daniel Lew^c, Pierre Hoffmeyer^a, Ilker Uçkay^{a,c,*}

Table 1 Group comparison of 6 vs. 12 week's antimicrobial therapy.

	Six weeks <i>n</i> = 70	Twelve weeks <i>n</i> = 74	<i>p</i> value (two-tailed)
Treatment			
Median no of surgical interventions for cure	1	1	
No. of episodes treated with retention and debridement	20 (29%)	40 (54%)	0.01 ^a
One-stage exchange	4 (6%)	6 (8%)	
Two-stage exchange	36 (51%)	20 (27%)	<0.01 ^a
Median delay between the exchange surgeries	13 weeks	16 weeks	
Girdlestone or arthrodesis	10 (14%)	8 (11%)	
Intravenous antibiotic treatment only	24 (35%)	27 (37%)	
Median duration of intravenous treatment	10 days	15 days	<0.01 ^b
Combination antibiotic treatment	41 (59%)	39 (53%)	
Outcome			
Median time delay begin of treatment–failure	3 weeks	3 weeks	
Persistence of infection	6 (85%)	18 (82%)	
New infection	1 (14%)	5 (23%)	
Death of all causes during follow-up	15 (21%)	24 (32%)	
Death due to prosthetic joint infection	1 (1%)	2 (3%)	

Six weeks of antibiotic treatment is sufficient following surgery for septic arthroplasty[☆]

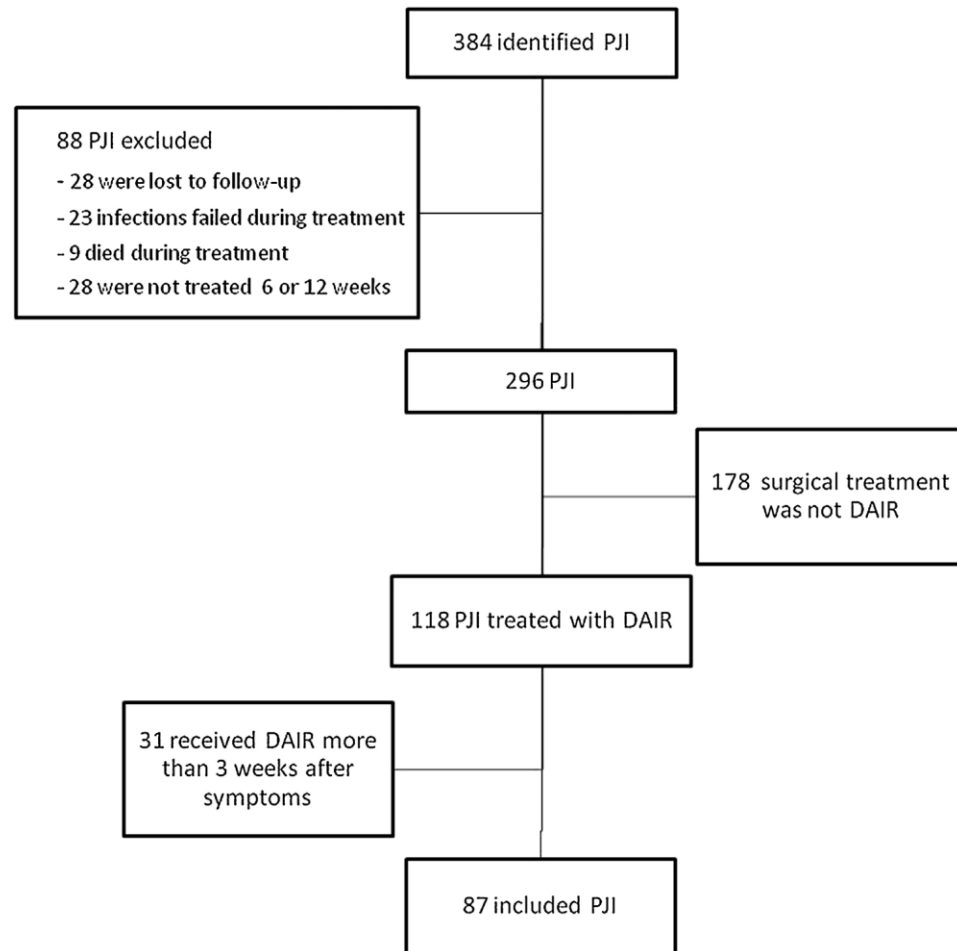
Louis Bernard^{a,d}, Laurence Legout^a, Line Zürcher-Pfund^a, Richard Stern^a, Peter Rohner^b, Robin Peter^a, Mathieu Assal^a, Daniel Lew^c, Pierre Hoffmeyer^a, Ilker Uçkay^{a,c,*}

Table 4 Logistic regression with outcome “overall cure of prosthetic joint infection”.

Associations	Univariate analysis Odds ratio with 95% confidence intervals	Multivariate analysis Odds ratio with 95% confidence intervals
Treatment		
No. of surgeries for infection	1.3 (0.7–2.4)	0.9 (0.4–1.9)
Implant removal	1	
Two-stage exchange	3.8 (1.4–10.7)	1.1 (0.3–4.8)
One-stage exchange	1.0 (0.2–5.0)	
Retention with debridement	0.2 (0.1–0.6)	0.3 (0.1–1.1)
Twelve weeks of antibiotic therapy	1	
Six weeks of antibiotic therapy	3.8 (1.5–9.6)	2.7 (0.9–8.3)
Intravenous & oral antibiotic therapy		
Intravenous antibiotics only	0.7 (0.3–1.7)	
Duration of intravenous therapy (days)	1.0 (0.99–1.01)	1.0 (0.99–1.01)
Less than 8 days of intravenous therapy	0.8 (0.2–2.4)	
8–21 days of intravenous therapy ^a	0.6 (0.2–1.7)	1.3 (0.4–4.5)
Antibiotic monotherapy	1	
Combination therapy	1.4 (0.6–3.3)	
No rifampicin use (staphylococcal infections)	1	
Use of rifampicin	1.4 (0.6–3.2)	

Antibiotic therapy duration for prosthetic joint infections treated by Debridement and Implant Retention (DAIR): Similar long-term remission for 6 weeks as compared to 12 weeks

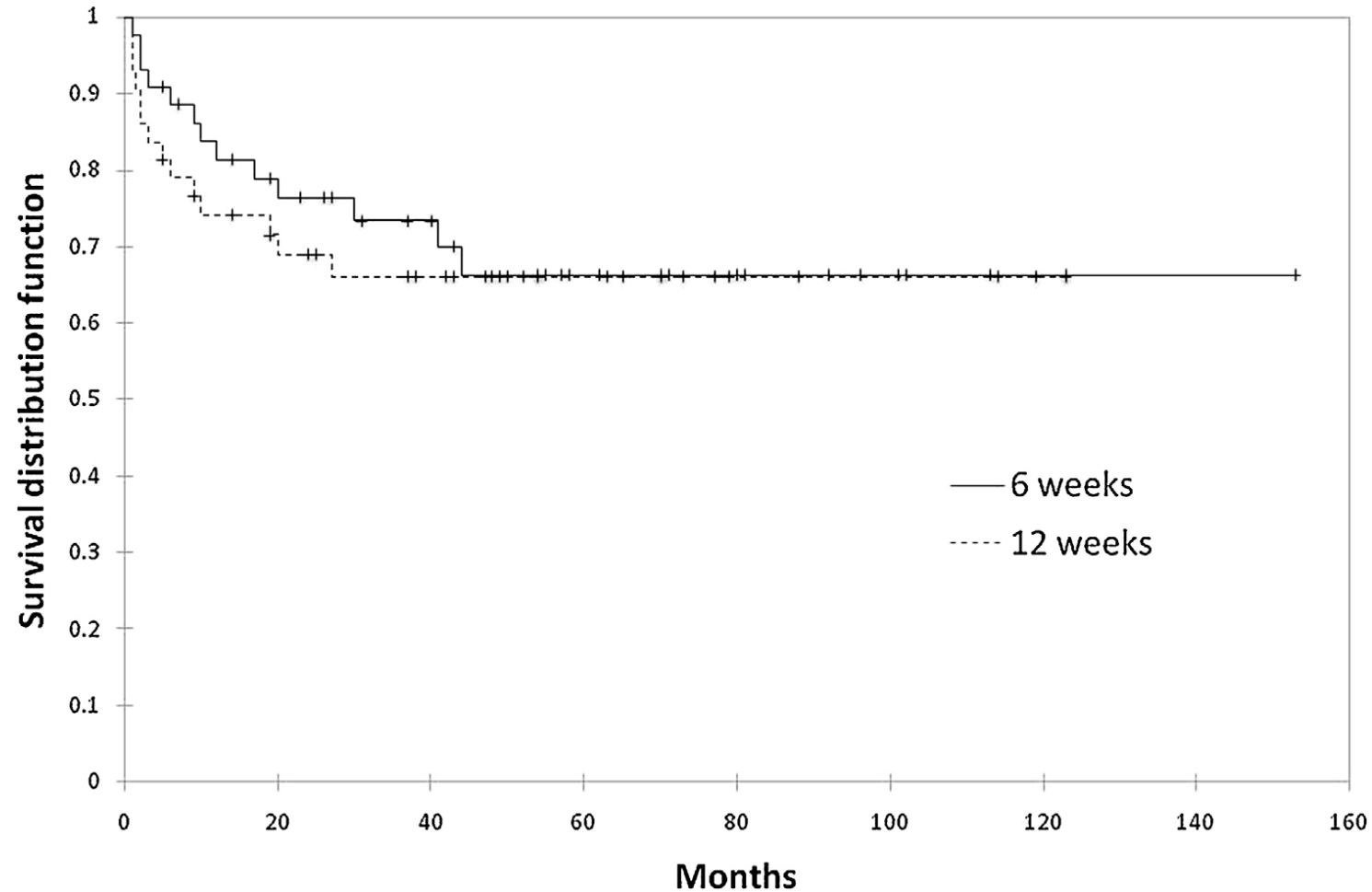
Hélène Chaussade^a, Ilker Uçkay^{b,*}, Albert Vuagnat^c, Jérôme Druon^a, Guillaume Gras^a, Philippe Rosset^a, Benjamin A. Lipsky^{b,d}, Louis Bernard^{a,b}



Variables	Six weeks n = 44 (%)	Twelve weeks n = 43 (%)	Comparison P-value
Female sex	20 (45.45)	22 (51.16)	.59
Median age (years)	71	71	.96
Joints Hip arthroplasty Knee arthroplasty	31 (70.45) 23 (29.55)	29 (67.44) 14 (32.56)	.76 .76
Center Garches Geneva Tours	2 (4.55) 10 (22.73) 32 (72.73)	4 (9.30) 10 (23.26) 29 (67.44)	.67 .67 .67
Indication for arthroplasty Arthritis or fracture	34 (82.93)	38 (92.68)	.18
Infection onset Early (<3 months) Delayed (3–12 months) Late (>12 months)	26 (59.09) 3 (6.82) 15 (34.09)	34 (79.07) 4 (9.30) 5 (11.63)	.045 .045 .045
Causative pathogens MRSA CoNS	5 (11.36) 13 (29.55)	7 (16.28) 12 (27.91)	.51 .87
Antibiotic treatment Combination treatment Rifampin + other Fluoroquinolones + other Flurooquinolone + Rifampin Exclusively intravenous therapy	32 (72.73) 30 (68.18) 26 (59.09) 22 (50.00) 17 (38.64)	36 (83.72) 30 (69.77) 28 (65.12) 22 (51.16) 14 (32.56)	.21 .87 .56 .91 .55
Death	11 (25.00)	13 (30.23)	.59

Antibiotic therapy duration for prosthetic joint infections treated by Debridement and Implant Retention (DAIR): Similar long-term remission for 6 weeks as compared to 12 weeks

Hélène Chaussade^a, Ilker Uçkay^{b,*}, Albert Vuagnat^c, Jérôme Druon^a, Guillaume Gras^a, Philippe Rosset^a, Benjamin A. Lipsky^{b,d}, Louis Bernard^{a,b}



Four versus six weeks of antibiotic therapy for osteoarticular infections after implant removal: a randomized trial

Mohamed Benkabouche^{1†}, Guillaume Racloz^{2,3†}, Hervé Spechbach¹, Benjamin A. Lipsky⁴, Jean-Michel Gaspoz¹ and Ilker Uçkay^{2,4,5*}

- Essai randomisé ouvert monocentrique
- 4 semaines vs 6 semaines ATB
- IOA sur matériel documentée
- Marge de NI 10% ; Puissance 80%

ITT analysis	6 weeks	4 weeks	p-value
n = 123	n = 61	n = 62	
Female sex	23 (37%)	25 (41%)	.67
Median age	65 years	62 years	.27
Removed arthroplasties	24 (39%)	15 (25%)	.09
Plates	20 (32%)	24 (39%)	.41
Intramedullary nails	7 (11%)	4 (7%)	.36
Staphylococcus aureus infection	23 (37%)	23 (38%)	.94
Streptococcal isolate	8 (13%)	7 (11%)	.81
Gram-negative pathogens	17 (27%)	14 (23%)	.57
Skin commensals ^o	23 (37%)	21 (34%)	.76
Median delay from diagnosis to surgery	15 days	20 days	.92
Duration of intravenous therapy (median)	5 days	3.5 days	.09
Complete clinical remission	58 (94%)	58 (95%)	.71
Significant antibiotic-related adverse events	22 (35%)	17 (28%)	.36

Two-stage revision of infected hip arthroplasty using an antibiotic-loaded spacer: retrospective comparison between short-term and prolonged antibiotic therapy

Pang-Hsin Hsieh^{1,2*}, Kuo-Chin Huang^{2,3}, Po-Cheng Lee^{1,2} and Mel S. Lee^{1,2}

¹Department of Orthopedics, Chang Gung Memorial Hospital, Taoyuan, Taiwan; ²College of Medicine, Chang Gung University, Taoyuan, Taiwan; ³Department of Orthopedics, Chang Gung Memorial Hospital, Chia-Yi, Taiwan

Patients and methods: We reviewed 99 patients with PHI who were managed with SEA using an ALCS from February 2002 to October 2005. A standard (4–6 week) antibiotic treatment course was administered in the first 46 patients and a short-term (1 week) therapy was adopted in the subsequent 53 patients.

Conclusions: Short-term antibiotic therapy was not associated with a higher rate of treatment failure.

DATIPO...

SPOILER ALERT

**« We know everything about antibiotics except
how much to give »**

Maxwell Finland

ATB (JAC Ilker)

Pathogen group	Six weeks		Four weeks	
	Parenteral antibiotics	Oral antibiotics	Parenteral antibiotics	Oral antibiotics
MSSA, n=42	Flucloxacillin (n=4)	Co-trimoxazole (n=3)	Flucloxacillin (n=3)	Co-trimoxazole (n=3)
	Cefazolin (n=3)	Clindamycin (n=8)	Cefazolin (n=3)	Clindamycin (n=10)
	Co-amoxiclav (n=4)	Quinolones (n=8)	Co-amoxiclav (n=3)	Quinolones (n=5)
	Cefuroxim (n=3)	Beta-lactams (n=4)	Cefuroxim (n=1)	Beta-lactams (n=6)
	Daptomycin (n=1)	Rifampicin (n=3)	Daptomycin (n=0)	Rifampicin (n=3)
	Cefuroxim (n=3)	Levofloxacin (n=2)	Cefuroxim (n=1)	Levofloxacin (n=2)
Streptococci, n=14	Ampicillin (n=2)	Clindamycin (n=2)	Ampicillin (n=2)	Clindamycin (n=2)
	Vancomycin (n=2)	Ampicillin (n=1)	Vancomycin (n=1)	Ampicillin (n=3)
	Cephalosporins (n=5)	Quinolones (n=8)	Cephalosporins (n=3)	Quinolones (n=10)
Gram-negatives, n=28	Carbapenems/tazobactam (n=3)	Co-trimoxazole (n=3)	Carbapenems/tazobactam (n=2)	Co-trimoxazole (n=2)
	Vancomycin/daptomycin (n=8)	Ampicillin (n=4)	Vancomycin/daptomycin (n=6)	Ampicillin (n=3)
Skin commensals ^o , n=43	Aminopenicillins (n=7)	Clindamycin (n=2)	Aminopenicillins (n=4)	Clindamycin (n=6)
	Cephalosporins (n=9)	Quinolones (n=8)	Cephalosporins (n=3)	Quinolones (n=6)
		Tetracyclines (n=9)		Tetracyclines (n=8)
		Rifampicin (n=5)		Rifampicin (n=3)

Merci de votre attention !

- 2 Durée d'Antibiothérapie (6 semaines vs 12 semaines) dans le Traitement des IPOA avec changement en 1T ou 2T long ou lavage articulaire
- Étude multicentrique, de non infériorité, prospective, randomisée, ouverte



384/410 patients - 34 centres
Nov 2011 - Mai 2015



DATIPO

- **Évaluer l'efficacité de 2 Durées d'Antibiothérapie (6 s versus 12 s) dans le Traitement des Infections sur Prothèses Ostéo-articulaires (IPOA), avec changement prothétique (en 1T ou 2T long) ou non (lavage articulaire)**
- **Étude multicentrique, de non infériorité, prospective, randomisée, ouverte**
- **Stratification sur :**
 - la technique chirurgicale (changement prothétique en 1T ou 2T, ou lavage avec maintien de l'implant)
 - la topographie de l'articulation (hanche/genou)
 - le rang de l'infection (1er épisode/2ème épisode et plus)

Six weeks of antibiotic treatment is sufficient following surgery for septic arthroplasty[☆]

Louis Bernard^{a,d}, Laurence Legout^a, Line Zürcher-Pfund^a, Richard Stern^a, Peter Rohner^b, Robin Peter^a, Mathieu Assal^a, Daniel Lew^c, Pierre Hoffmeyer^a, Ilker Uçkay^{a,c,*}

Results: A total of 144 PJI (62 hip arthroplasties, 62 knee arthroplasties, and 20 hip hemiarthroplasties) were included with a prolonged follow-up ranging from 26 to 65 months. Surgical treatment included 60 débridements with implant retention, 10 one-stage exchanges of the prosthesis, 57 two-stage exchanges, and 17 Girdlestone procedures or knee arthrodeses. Seventy episodes (49%) received 6 weeks antibiotic therapy and 74 episodes, 12 weeks. Cure was achieved in 115 episodes (80%). Cure rate did not change according to the duration of intravenous antibiotics (>8 days, 8–21 days, >21 days) (Kruskal–Wallis-test; $p = 0.37$). In multivariate analysis, none of the following parameters was statistically significantly associated with cure: two-stage exchange (odds ratio 1.1, 95%CI 0.2–4.8); number of débridements (0.9, 0.4–1.9); six weeks antibiotherapy (2.7, 0.96–8.3); duration of intravenous course (1.0, 0.96–1.03); sinus tract (0.6, 0.2–1.7); or MRSA infection (0.5, 0.2–1.5), although implant retention showed a tendency for less cure (0.3, 0.1–1.1).

Table 4 Logistic regression with outcome "overall cure of prosthetic joint infection".

Associations	Univariate analysis Odds ratio with 95% confidence intervals	Multivariate analysis Odds ratio with 95% confidence intervals
Twelve weeks of antibiotic therapy	1	
Six weeks of antibiotic therapy	3.8 (1.5–9.6)	2.7 (0.9–8.3)

Evolution

	Six weeks <i>n</i> = 70	Twelve weeks <i>n</i> = 74
Outcome		
Median time delay begin of treatment–failure	3 weeks	3 weeks
Persistence of infection	6 (85%)	18 (82%)
New infection	1 (14%)	5 (23%)
Death of all causes during follow-up	15 (21%)	24 (32%)
Death due to prosthetic joint infection	1 (1%)	2 (3%)

Table 3 Cure incidences stratified according key parameters (Fisher exact or χ^2 – tests).

			<i>p</i> value
Parenteral antibiotic treatment	For \leq 8 days 37/44	For \geq 21 days 50/65	0.47
Removal vs. retention of arthroplasty	Removal 75/84	Retention 40/60	<0.01
Time of onset of infection	Early infection 38/42	Late infection 56/71	0.13

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹ Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

III. What is the medical treatment for a patient with PJI following debridement and retention of the prosthesis?

Recommendations

Staphylococcal PJI

23. Two to 6 weeks of a pathogen-specific intravenous antimicrobial therapy (Table 2) in combination with rifampin 300–450 mg orally twice daily followed by rifampin plus a companion oral drug for a total of 3 months for a THA infection and 6 months for a total knee arthroplasty (TKA) infection (A-I). Total elbow, total shoulder, and total ankle

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹ Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

PJI Due to Other Organisms

26. Four to 6 weeks of pathogen-specific intravenous or highly bioavailable oral antimicrobial therapy (Table 2; **B-II**).

27. Monitoring of outpatient intravenous antimicrobial therapy should follow published guidelines (**A-II**) [6].

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹ Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

IV. What is the medical treatment for a patient with PJI following resection arthroplasty with or without planned staged reimplantation?

Recommendations

29. Four to 6 weeks of pathogen-specific intravenous or highly bioavailable oral antimicrobial therapy is recommended (Table 2; A-II).

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹ Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

V. What is the medical treatment for a patient with PJI following 1-stage exchange?

Recommendations

Staphylococcal PJI

31. Two to 6 weeks of pathogen-specific intravenous antimicrobial therapy in combination with rifampin 300–450 mg orally twice daily followed by rifampin plus a companion oral drug for a total of 3 months is recommended (Table 2; C-III).

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America^a

Douglas R. Osmon,¹ Elie F. Berbari,¹ Anthony R. Berendt,² Daniel Lew,³ Werner Zimmerli,⁴ James M. Steckelberg,¹ Nalini Rao,^{5,6} Arlen Hanssen,⁷ and Walter R. Wilson¹

PJI Due to Other Organisms

34. Four to 6 weeks of pathogen-specific intravenous or highly bioavailable oral antimicrobial therapy is recommended (Table 2; A-II).

Conclusions

- **Durée individualisée ?**
- **Patient/bactérie/type infection : matériel ancienne, chronique**
- **Critères d'arrêt ?**
- **Probablement on peut descendre encore**

