

TUNISIE

HAMMAMET

du 19 | nov.  
au 21 | 2021

4<sup>e</sup> édition

# AFRAMED 2021

VIH, Hépatites, Santé sexuelle  
Infections émergentes



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# INFECTIONS SEXUELLEMENT TRANSMISSIBLES ET RESISTANCE MICROBIENNE



## EPIDEMIOLOGIE GENERALE

- 1 million d'IST diagnostiquées PAR JOUR dans le monde
- En 2016, 376 millions d'IST diagnostiquées dont :
  - *Chlamydia trachomatis* : 127 millions
  - *Neisseria gonorrhoeae* : 87 millions
  - Syphilis : 6,3 millions

## PROBLEME MONDIAL DE SANTE PUBLIQUE



# CHLAMYDIA TRACHOMATIS

- Difficile à explorer +++ (technique ; réels échecs de traitement ?)
- Mutations ARNr 23s et protéines ribosomales
- Exceptionnelles *in vivo*, difficilement inductibles *in vitro* (dernière étude CNR France : 24 souches étudiées, toutes sensibles)

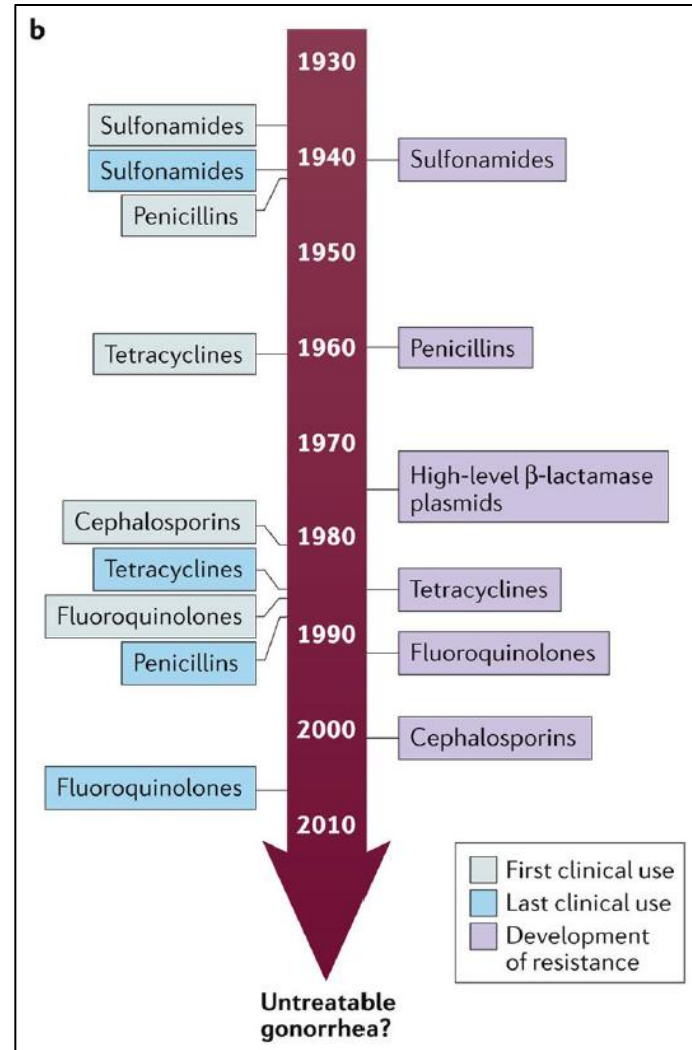
**Table 4**

Comparison the results of antimicrobial susceptibility of *C. trachomatis* in this surveillance and in the previous reports.

| The author in the report (year) | Number of isolates | MIC (µg/ml)       | Antimicrobial agent |             |             |             |
|---------------------------------|--------------------|-------------------|---------------------|-------------|-------------|-------------|
|                                 |                    |                   | LVFX                | DOXY        | CAM         | AZM         |
| Donati M et al. (2010)          | 50                 | MIC               | 0.5                 | 0.03–0.06   | 0.015–0.06  | 0.25–0.5    |
|                                 |                    | MIC range         | –                   | –           | –           | –           |
| Ljubin-Sternak S et al. (2013)  | 24                 | MIC <sub>90</sub> | –                   | 0.064       | –           | 0.125       |
|                                 |                    | MIC range         | –                   | 0.016–0.064 | –           | 0.064–0.125 |
| Zheng H et al. (2015)           | 61                 | MIC <sub>90</sub> | –                   | 0.064       | 0.032       | 0.160       |
|                                 |                    | MIC range         | –                   | 0.016–0.640 | 0.008–0.064 | 0.080–0.640 |
| Previous study (2016)           | 58                 | MIC <sub>90</sub> | 0.5                 | 0.125       | 0.016       | 0.063       |
|                                 |                    | MIC range         | 0.25–0.5            | 0.063–0.25  | 0.004–0.016 | 0.031–0.125 |
| Present study                   | 41                 | MIC <sub>90</sub> | 0.5                 | 0.125       | 0.031       | 0.125       |
|                                 |                    | MIC range         | 0.25–1              | 0.063–0.125 | 0.008–0.031 | 0.031–0.25  |



# NEISSERIA GONORRHOEAE / EVOLUTION DE LA RESISTANCE





# NEISSERIA GONORRHOEAE/ EPIDEMIOLOGIE - RESISTANCE AUX C3G

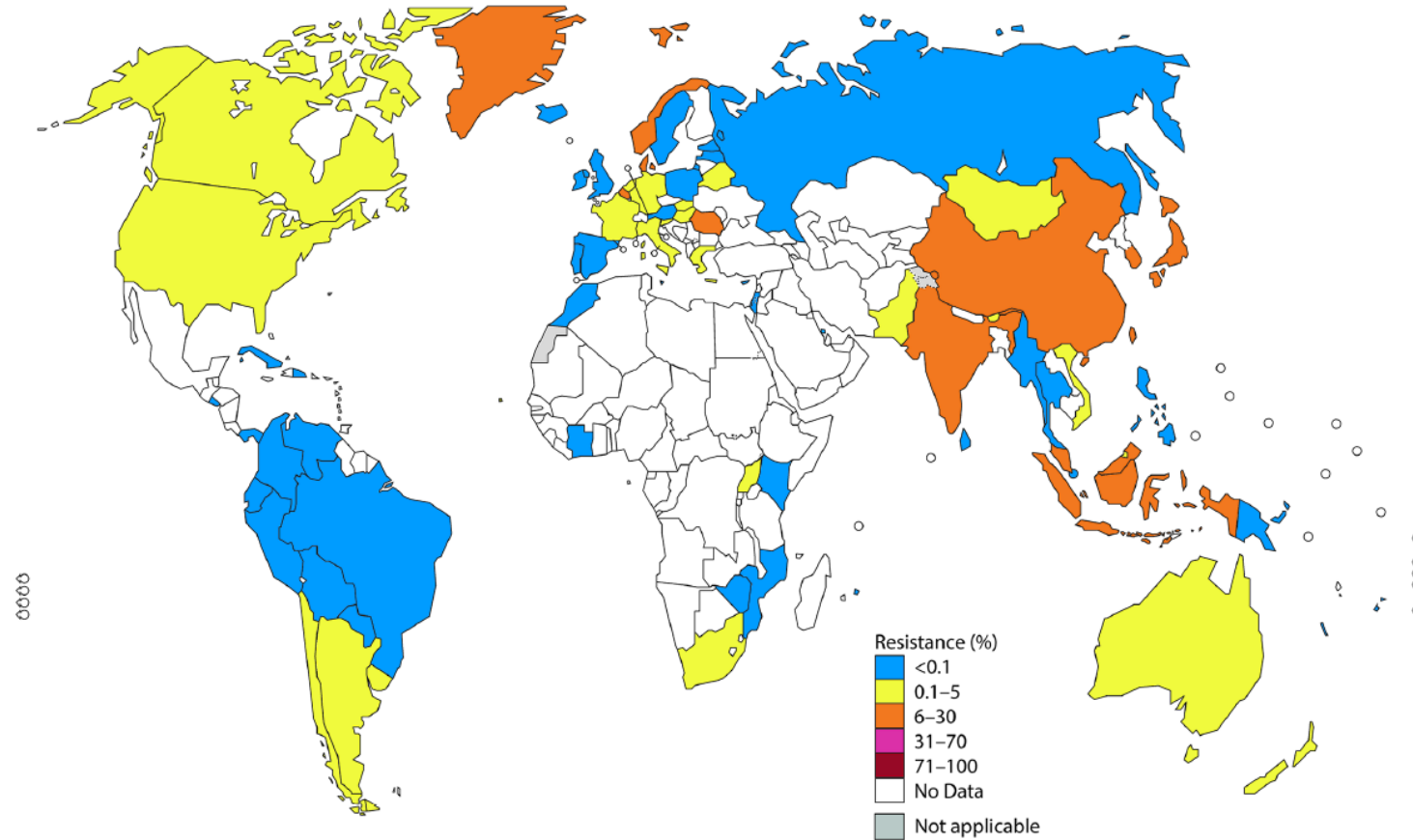
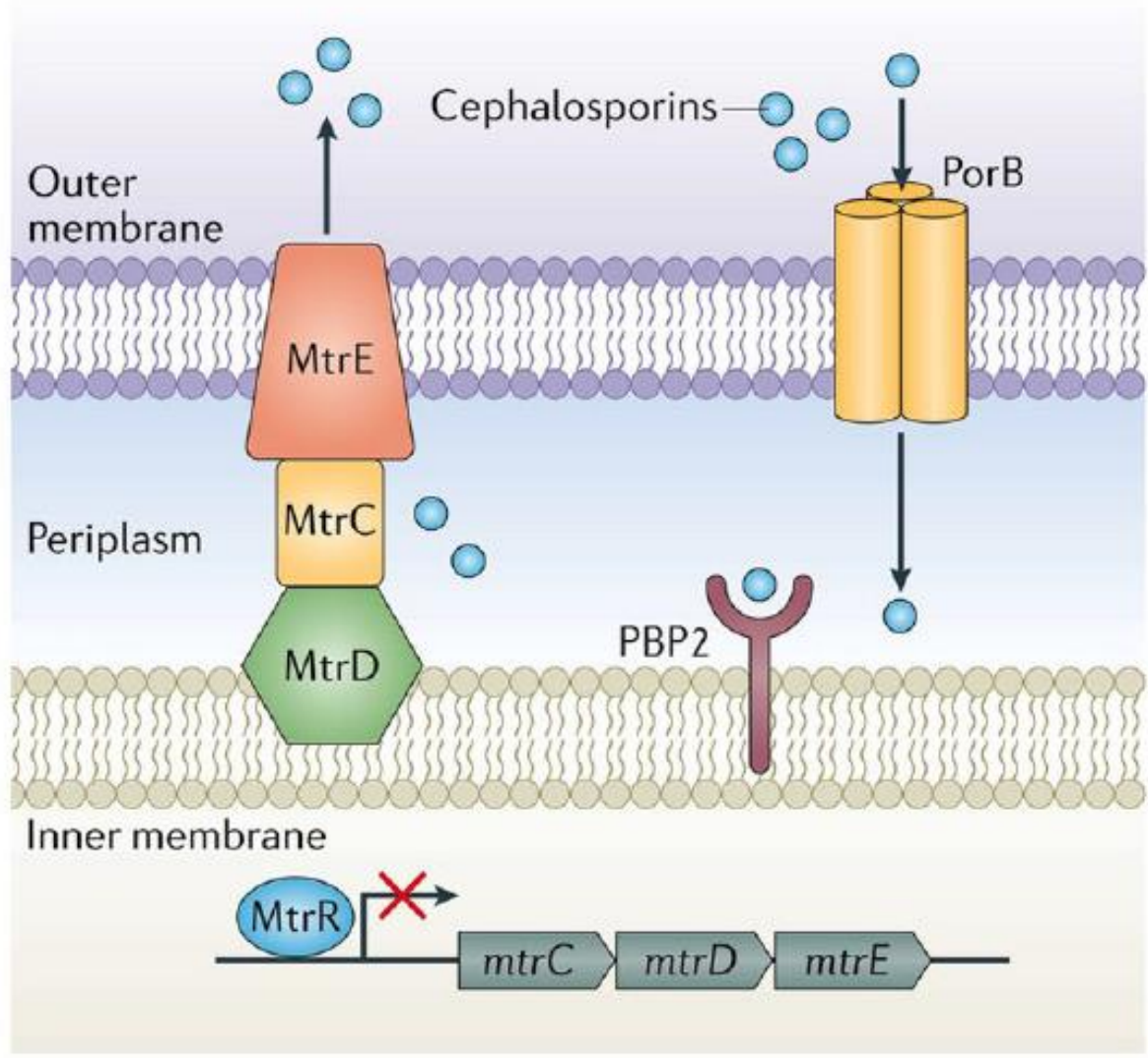


Fig 1. The percentage (%) of isolates with decreased susceptibility or resistance to extended-spectrum cephalosporin (ESC) (cefixime and/or ceftriaxone) according to the most recent World Health Organization (WHO) Gonococcal Antimicrobial Surveillance Programme (GASP) data (2014 for most countries, but for a few countries, only 2011–2013 data were available). Note: The areas in grey are disputed territories (e.g., Western Sahara, Jammu, and Kashmir), and no antimicrobial resistance (AMR) data are available from these regions.



# NEISSERIA GONORRHOEAE / C3G - MECANISMES DE RESISTANCE



Quillin SJ, Seifert HS. Neisseria gonorrhoeae host adaptation and pathogenesis. Nat Rev Microbiol. 2018 Apr;16(4):226-240.



# NEISSERIA GONORRHOEAE/ EPIDEMIOLOGIE - RESISTANCE A L'AZITHROMYCINE

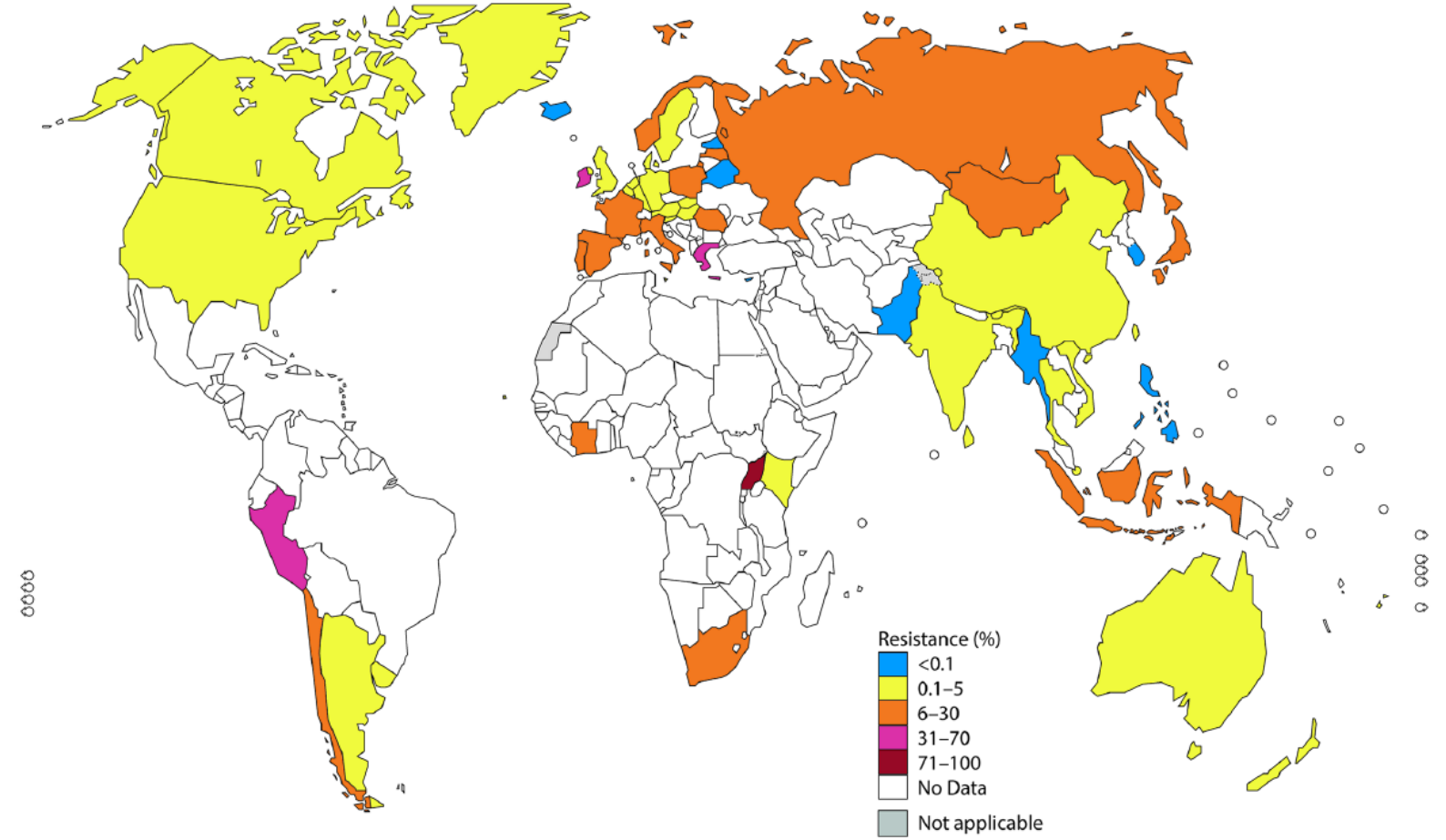


Fig 2. The percentage (%) of isolates with resistance to azithromycin according to the most recent World Health Organization (WHO) Gonococcal Antimicrobial Surveillance Programme (GASP) data (2014 for most countries, but for a few countries, only 2011–2013 data were available). Note: The areas in grey are disputed territories (e.g., Western Sahara, Jammu, and Kashmir), and no antimicrobial resistance (AMR) data are available from these regions.



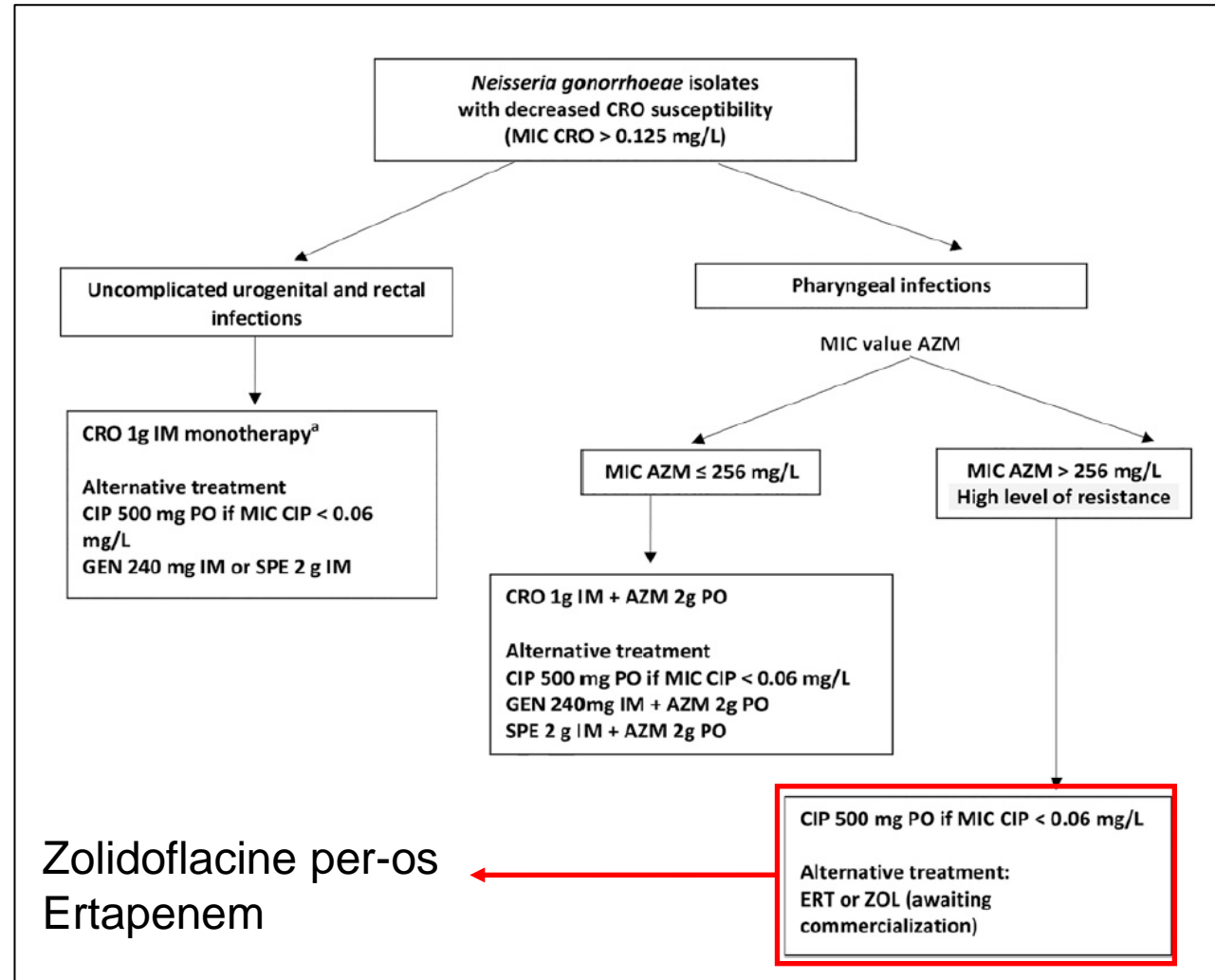


## NEISSERIA GONORRHOEAE / RECOMMANDATIONS THERAPEUTIQUES

- Tunisie : CEFTRIAXONE 500mg IM
- France : idem
- CDC : idem
- eCDC : CEFTRIAXONE 1g IM + AZITHROMYCINE 2g po ou CEFTRIAXONE 1g IM si C3G S (avec Test of Cure)



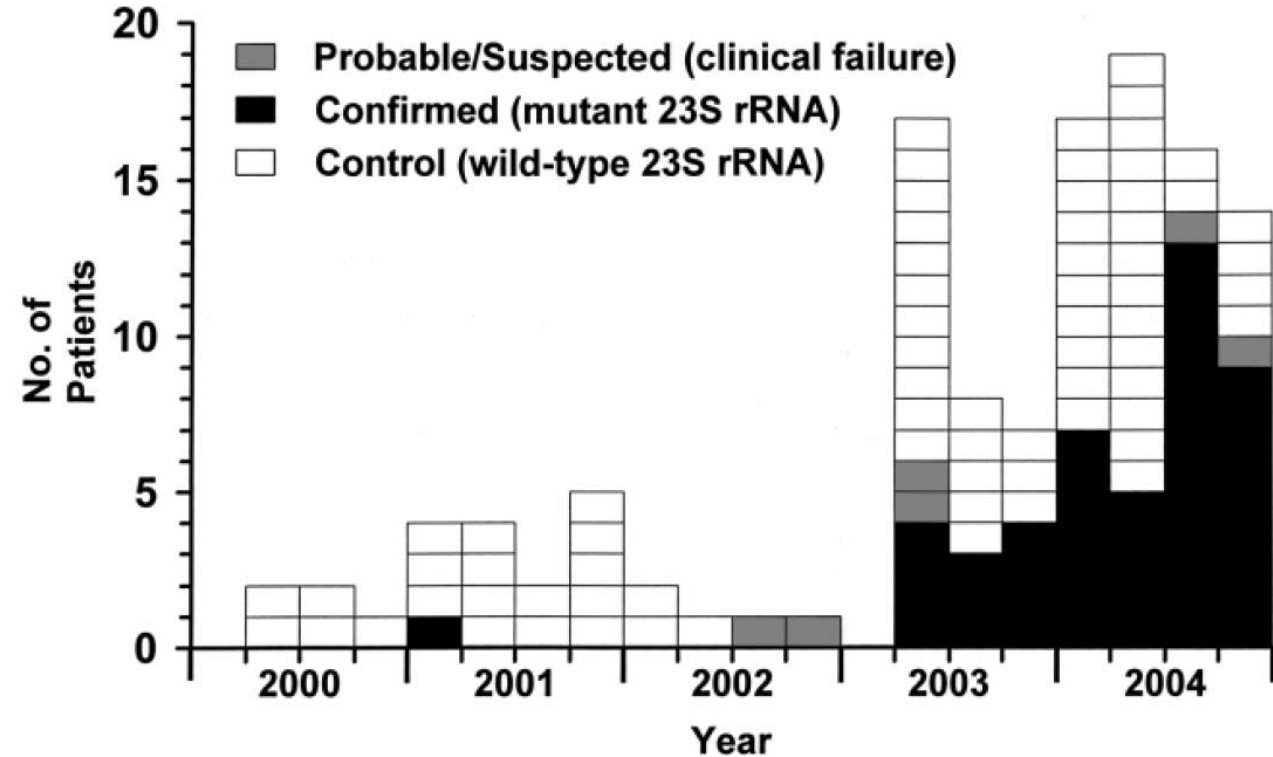
# NEISSERIA GONORRHOEAE / PERSONNALISER LE TRAITEMENT ?





## SYPHILIS / RESISTANCE AUX MACROLIDES

- Echecs de traitement par Erythromycine connus depuis les années 70
- Mutation A2058G sur l'ARNr 23S



Le CNR a analysé **104 échantillons** issus du protocole **GENOSYPH** provenant d'ulcérations cutanéomuqueuses de patients suspectés de syphilis récente. Nous montrons que **88 (85%)** échantillons possèdent la mutation **A2058G** sur le gène de l'**ARN 23S** correspondant à la résistance clinique de la syphilis à l'azithromycine.



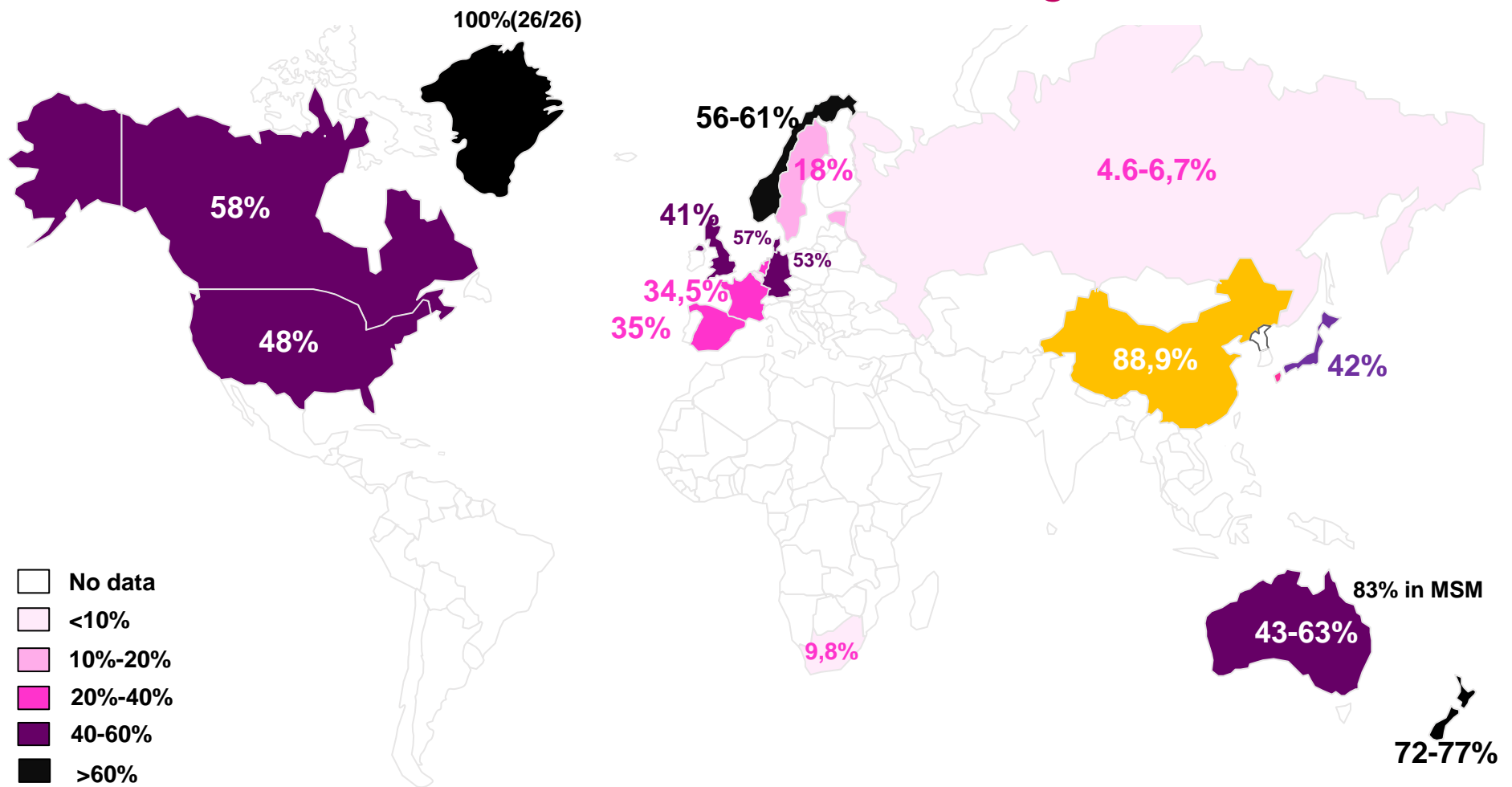
## SYPHILIS / RESISTANCE A LA DOXYCYCLINE ?

Dans un contexte de l'utilisation accrue de la doxycycline pour le traitement de la syphilis (rupture de distribution de la BPG en 2017, augmentation de la PrEP et mise en place de la PeP), l'évaluation de la présence de marqueurs moléculaires potentiels responsables d'une résistance à la doxycycline a été mise en place en France par le CNR.

Le CNR a analysé **130 échantillons** issus du protocole **GENOSYPH** provenant d'ulcérations cutanéomuqueuses de patients suspectés de syphilis récente. Nous montrons **qu'aucun (0%) des échantillons** ne possède les mutations 926-928, 939, 965-967 et 1058 localisées au niveau du gène de l'ARNr 16S (numérotation *E. coli*) correspondant aux marqueurs moléculaires de la résistance aux tétracyclines connus pour d'autres bactéries.



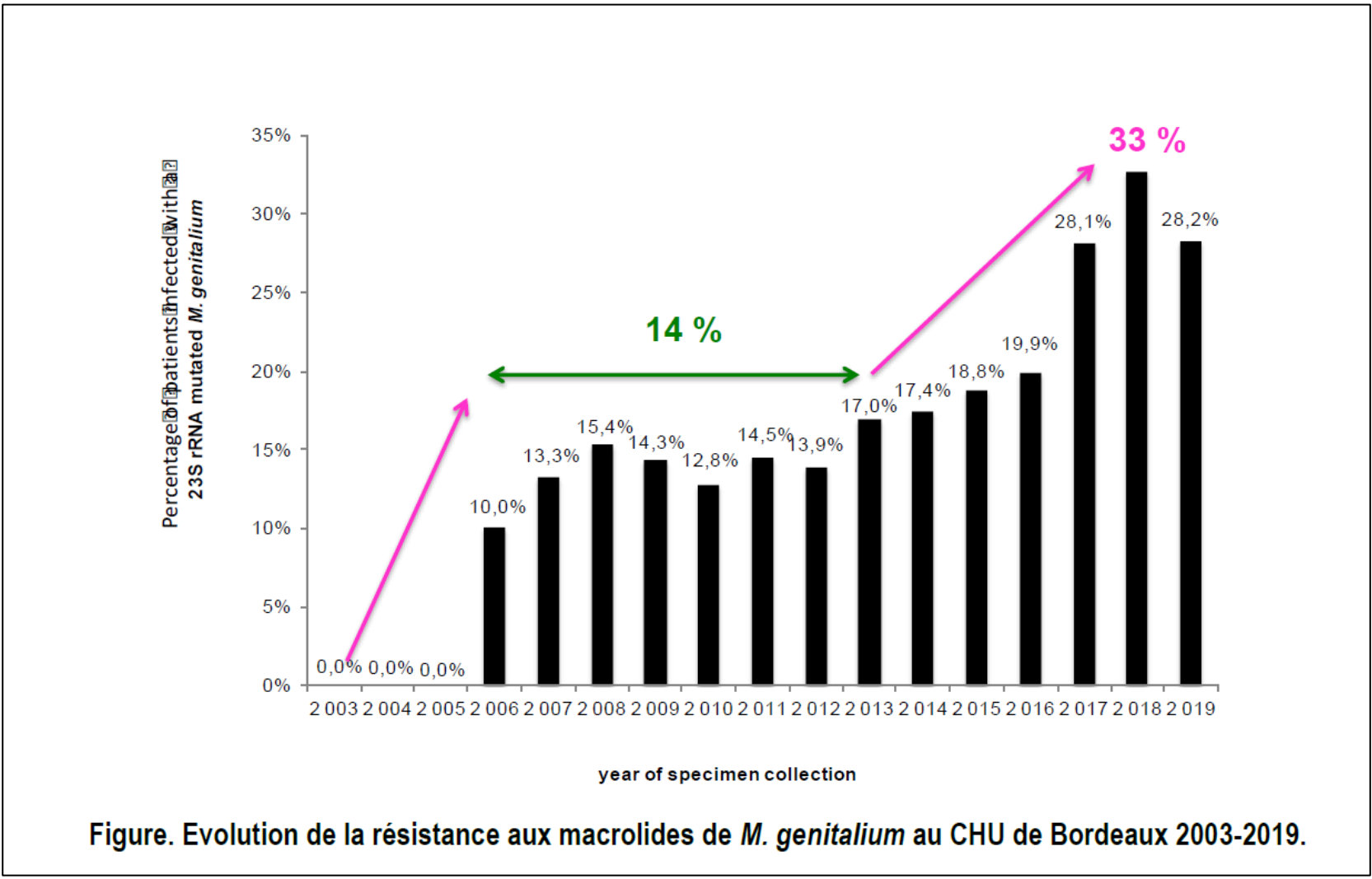
## Prevalence of macrolide resistance in *M. genitalium*



Par le Pr BEBEAR.  
Anagnrius, PloS one 2013; Tagg, J. Clin. Microbiol. 2013; Pond, Clin. Inf. Dis. 2014; Salado-Rasmussen, Clin. Inf. Dis, 2014; Kikuchi, J. Antimicrob. Chemother. 2014; Hay, Sex. Transm. Dis. 2015; Gushin, BMC Infect. Dis. 2015; Nijhuis, J. Antimicrob. Chemother. 2015; Gesink, Can. Fam. Physician, 2016; Getman, J. Clin. Microbiol. 2016; Gossé, J. Clin. Microbiol. 2016; Shipitsina, Plos One, 2017; Basu, J. Clin. Microbiol. 2017; Tabrizi, J. Clin. Microbiol. 2017; Barbera, Sex. Transm. Dis. 2017; Dumke, Diagn Microbiol infect Dis, 2016; Coorevits, J. Glob. Antimicrob. Resist. 2017; Anderson, J. Clin. Microbiol. 2017; Unemo, Clin. Microbiol. Infect.2017. Bébéar and Pereyre, French National Center for STI report, 2019; Li, Clin. Infect. Dis. 2019.

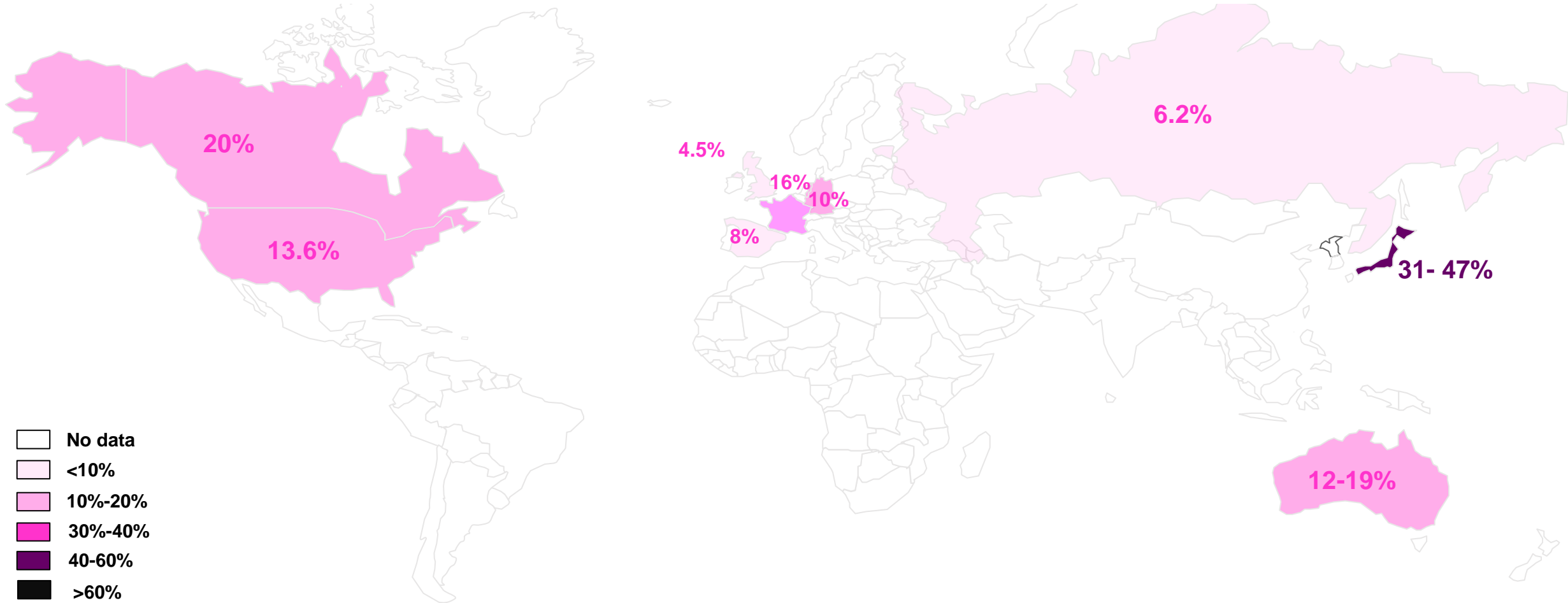


# MYCOPLASMA GENITALIUM / RESISTANCE AUX MACROLIDES





## Prevalence of fluoroquinolone resistance in *M. genitalium*



- No data
- <10%
- 10%-20%
- 30%-40%
- 40-60%
- >60%



# MYCOPLASMA GENITALIUM / DOUBLE-RESISTANCE

Tableau. Prévalence de la résistance aux macrolides et aux fluoroquinolones par centre participant.

| Centre                    | Type de centre | Nb de patients | Nb (%) de patients avec résistance aux macrolides* | Nb (%) de patients avec sensibilité aux macrolides* | Nb (%) de patients avec résistance aux fluoroquinolones* | Nb (%) de patients avec sensibilité aux fluoroquinolones* | Nb (%) de patients avec une double résistance** |
|---------------------------|----------------|----------------|--|---|--|---|---|
| BARLA NICE                | Privé          | 33             | 10 (37)  | 17 (63)   | 4 (14)   | 25 (86)   | 2 (8)   |
| CLINIQUE PASTEUR TOULOUSE | Privé          | 4              | 2 (50)   | 2 (50)  | 0  | 4 (100)   | 0   |
| BIO 67 STRASBOURG         | Privé          | 6              | 0  | 4 (100)   | 0  | 4 (67)  | 0   |
| BIORYLIS                  | Privé          | 11             | 2 (25)   | 6 (75)  | 0  | 8 (73)  | 0   |
| CERBA                     | Privé          | 45             | 13 (37)  | 22 (63)   | 4 (15)   | 22 (85)   | 4 (25)  |
| LDA 13, MARSEILLE         | CeGIDD         | 5              | 2 (67)   | 1 (33)  | 0  | 5 (100)   | 0   |
| CH CAEN                   | CH             | 8              | 0  | 5 (100)   | 2 (29)   | 5 (71)  | 0   |
| CHU BORDEAUX              | CHU            | 11             | 2 (20)   | 8 (80)  | 0  | 7 (64)  | 0   |
| CHU CLERMONT FERRAND      | CHU            | 10             | 2 (22)   | 7 (78)  | 1 (11)   | 8 (89)  | 0   |
| CHU DIJON                 | CHU            | 3              | 1 (50)   | 1 (50)  | 0  | 2 (67)  | 0   |
| CHU LYON                  | CHU            | 28             | 11 (58)  | 8 (42)  | 4 (21)   | 15 (79)   | 1 (6)   |
| CHU MARSEILLE             | CHU            | 20             | 3 (20)   | 15 (80)   | 1 (8)  | 11 (92)   | 0   |
| CHU MONTPELLIER           | CHU            | 6              | 4 (67)   | 2 (33)  | 0  | 1 (17)  | 0   |
| CHU POITIERS              | CHU            | 19             | 3 (20)   | 12 (80)   | 2 (22)   | 7 (78)  | 2 (22)  |
| CHU TOULOUSE              | CHU            | 16             | 3 (21)   | 11 (79)   | 0  | 16 (100)  | 0   |
| CHU TOURS                 | CHU            | 20             | 4 (37)   | 7 (63)  | 0  | 15 (75)   | 0   |
| ANTOINE BECLERE           | CHU APHP       | 7              | 0  | 3 (100)   | 0  | 2 (29)  | 0   |
| LOUIS MOURIER             | CHU APHP       | 16             | 1 (8)  | 11 (92)   | 0  | 9 (56)  | 0   |
| SAINT-LOUIS               | CHU APHP       | 111            | 36 (44)  | 46 (56)   | 26 (27)  | 72 (63)   | 13 (16)   |
| <b>19</b>                 |                | <b>379</b>     | <b>99 (34,5)</b>                                   | <b>188 (66)</b>                                     | <b>44 (15,6)</b>   | <b>238 (74)</b>   | <b>22 (9,2)</b>                                 |





# MYCOPLASMA GENITALIUM / QUEL TRAITEMENT ?

## DEPISTAGE ET TRAITEMENT SI SYMPTOMES



Clinical Infectious Diseases  
MAJOR ARTICLE

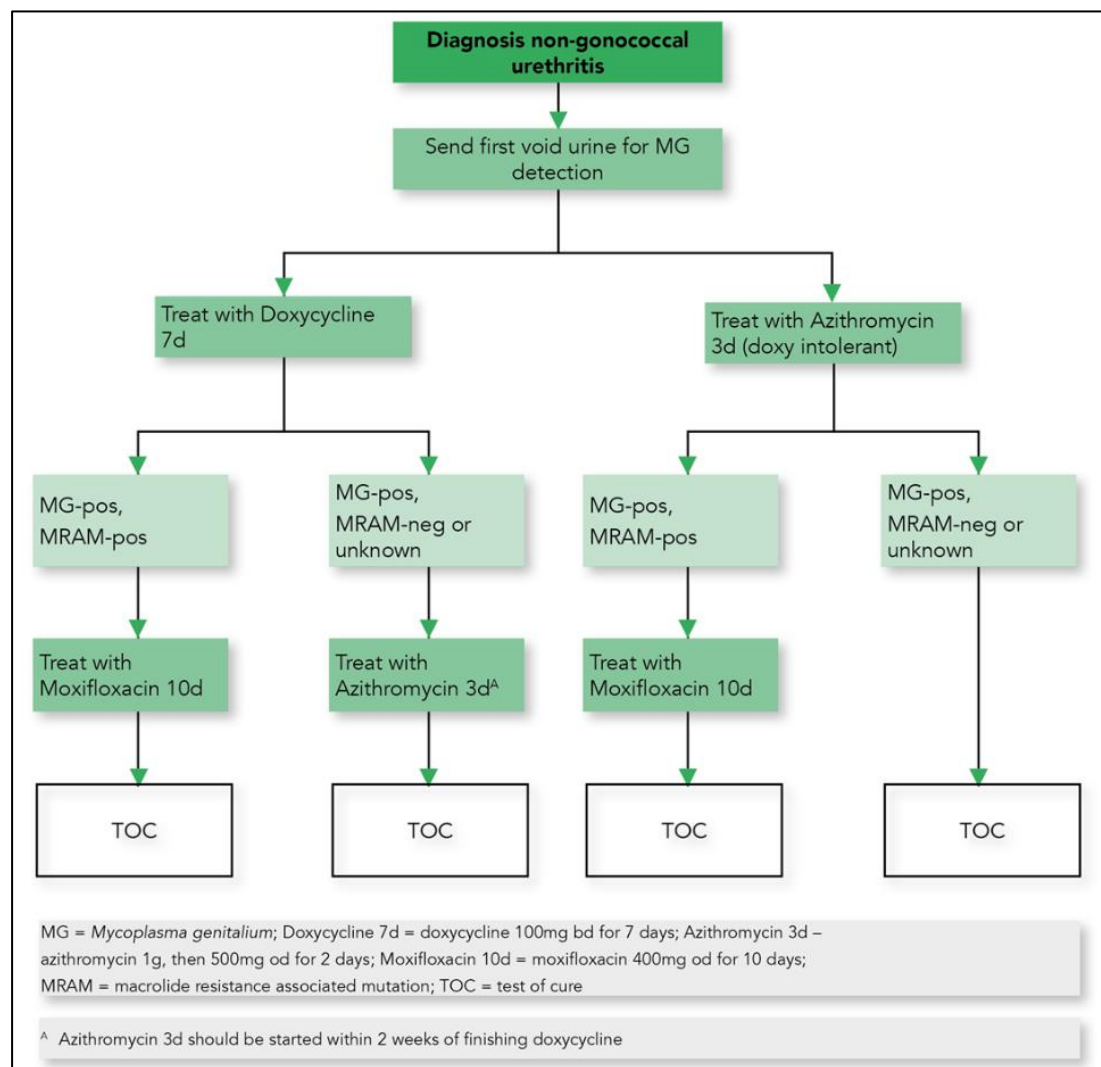


Resistance-Guided Antimicrobial Therapy Using Doxycycline–Moxifloxacin and Doxycycline–2.5 g Azithromycin for the Treatment of *Mycoplasma genitalium* Infection: Efficacy and Tolerability

Duygu Durukan,<sup>1,2</sup> Tim R. H. Read,<sup>1,2</sup> Gerald Murray,<sup>3,4</sup> Michelle Doyle,<sup>2</sup> Eric P. F. Chow,<sup>1,2</sup> Lenka A. Vodstrcil,<sup>1,2</sup> Christopher K. Fairley,<sup>1,2</sup> Ivette Aguirre,<sup>2</sup> Elisa Mokany,<sup>3</sup> Lit Y. Tan,<sup>3</sup> Marcus Y. Chen,<sup>1,2</sup> and Catriona S. Bradshaw<sup>1,2</sup>

<sup>1</sup>Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia; <sup>2</sup>Melbourne Sexual Health Centre, Alfred Health, Carlton, Victoria, Australia; <sup>3</sup>Murdoch Children's Research Institute, Royal Children's Hospital, Parkville, Victoria, Australia; <sup>4</sup>Centre for Women's Infectious Diseases, Royal Women's Hospital, Melbourne, Victoria, Australia; and <sup>5</sup>SpeedX Pty Ltd, National Innovation Centre, Eveleigh, New South Wales, Australia

Si XDR : DOXYCYCLINE puis PRISTINAMYCINE





# IST RESISTANTES EMERGENTES

*Clinical Infectious Diseases*

MAJOR ARTICLE



## International Spread of Multidrug-Resistant *Campylobacter coli* in Men Who Have Sex With Men in Washington State and Québec, 2015–2018

MICROBIAL GENOMICS

OUTBREAK REPORT

Baker *et al.*, *Microbial Genomics* 2018;4  
DOI 10.1099/mgen.0.000181



An outbreak of a rare Shiga-toxin-producing *Escherichia coli* serotype (O117:H7) among men who have sex with men

Kate S. Baker,<sup>1,\*</sup> Timothy J. Dallman,<sup>2</sup> Nicholas R. Thomson<sup>3</sup> and Claire Jenkins<sup>2</sup>

## Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift  
An open access, online journal • [www.smw.ch](http://www.smw.ch)

Original article | Published 22 August 2018 | doi:10.4414/ismw.2018.14645  
Cite this as: *Swiss Med Wkly.* 2018;148:w14645

First report of sexually transmitted multi-drug resistant *Shigella sonnei* infections in Switzerland, investigated by whole genome sequencing

Hinic Vladimira<sup>a</sup>, Seth-Smith Helena<sup>ab</sup>, Stöckle Marcel<sup>c</sup>, Goldenberger Daniel<sup>a</sup>, Egli Adrian<sup>ab</sup>