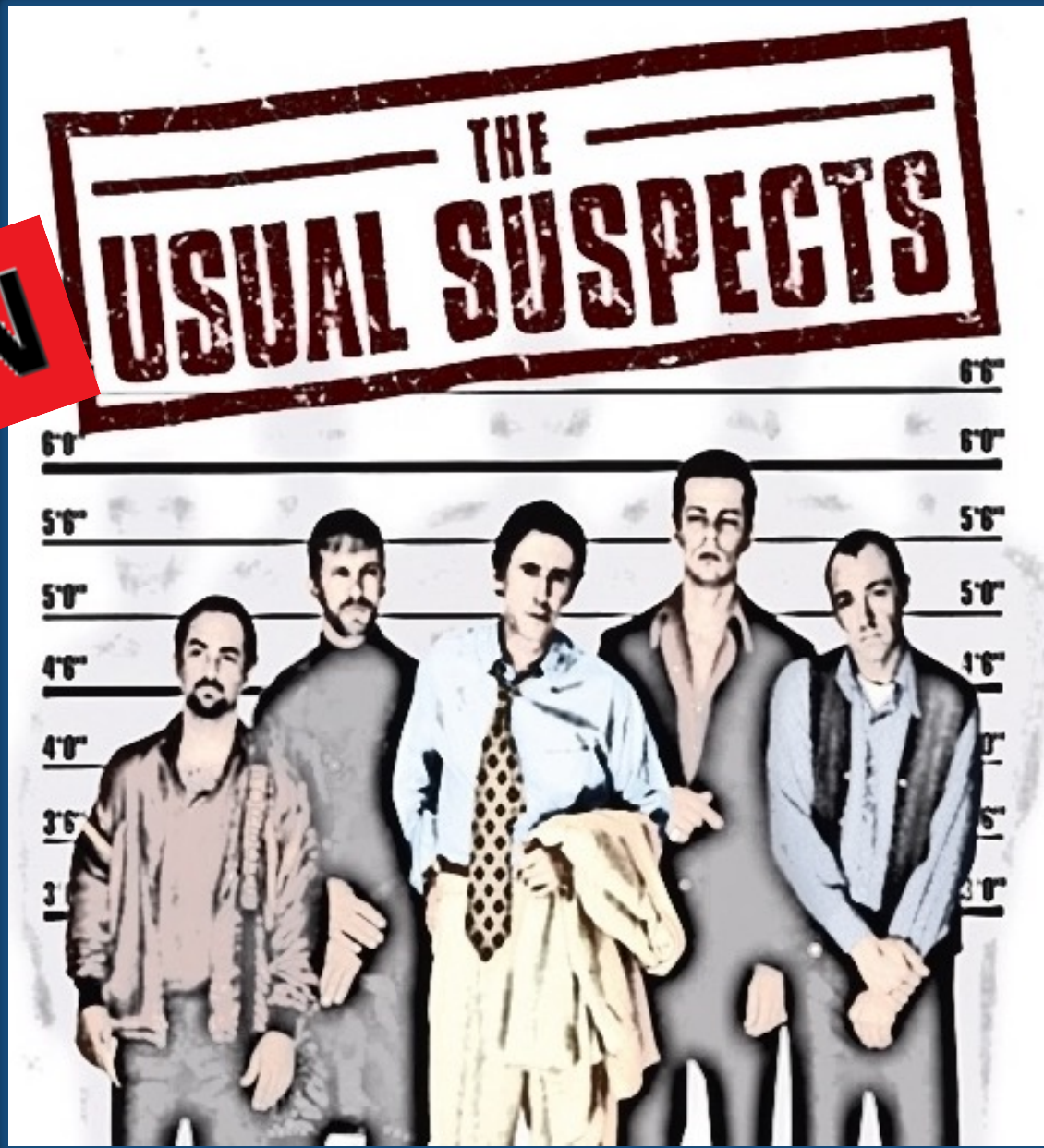


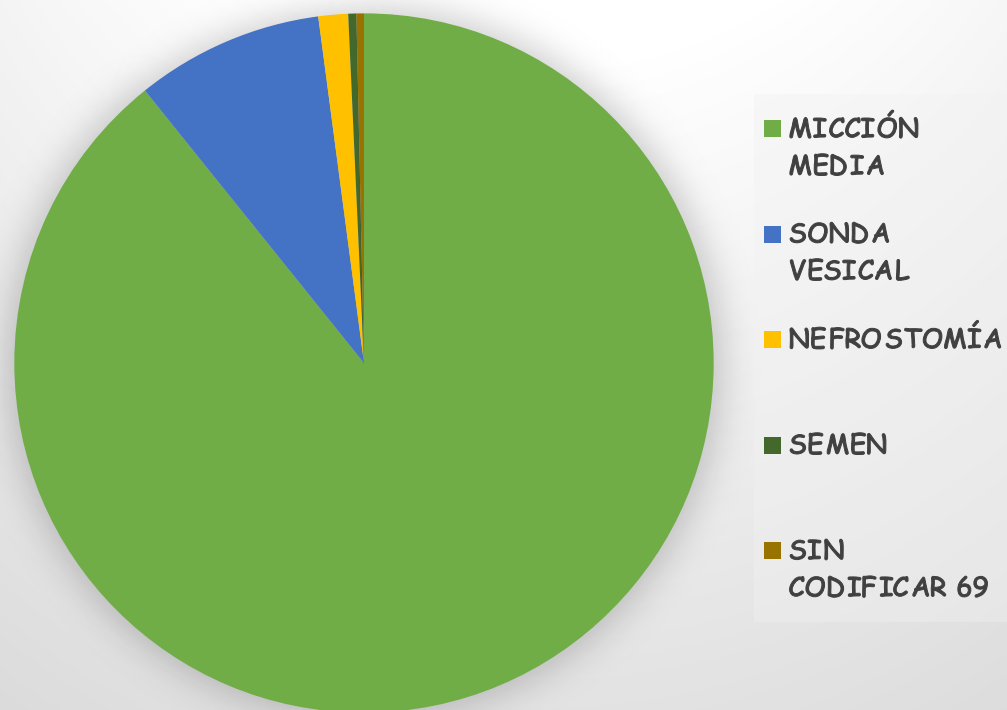
UN



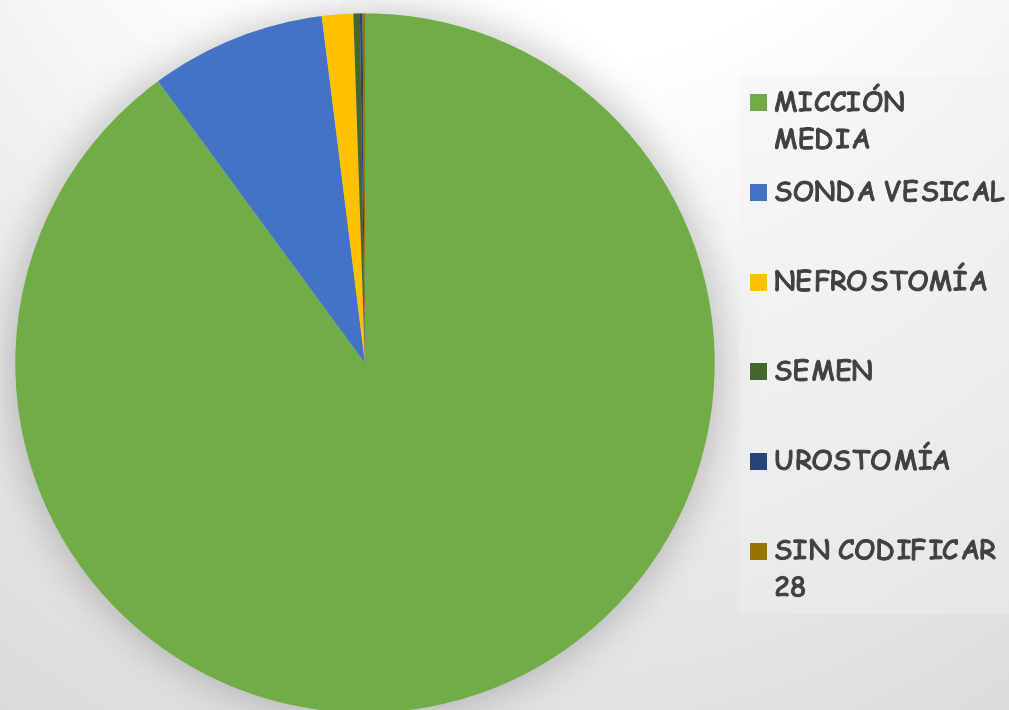
Raquel Calleja Fernández  
Servicio Microbiología CAULE

# TIPO DE MUESTRAS PROCESADAS

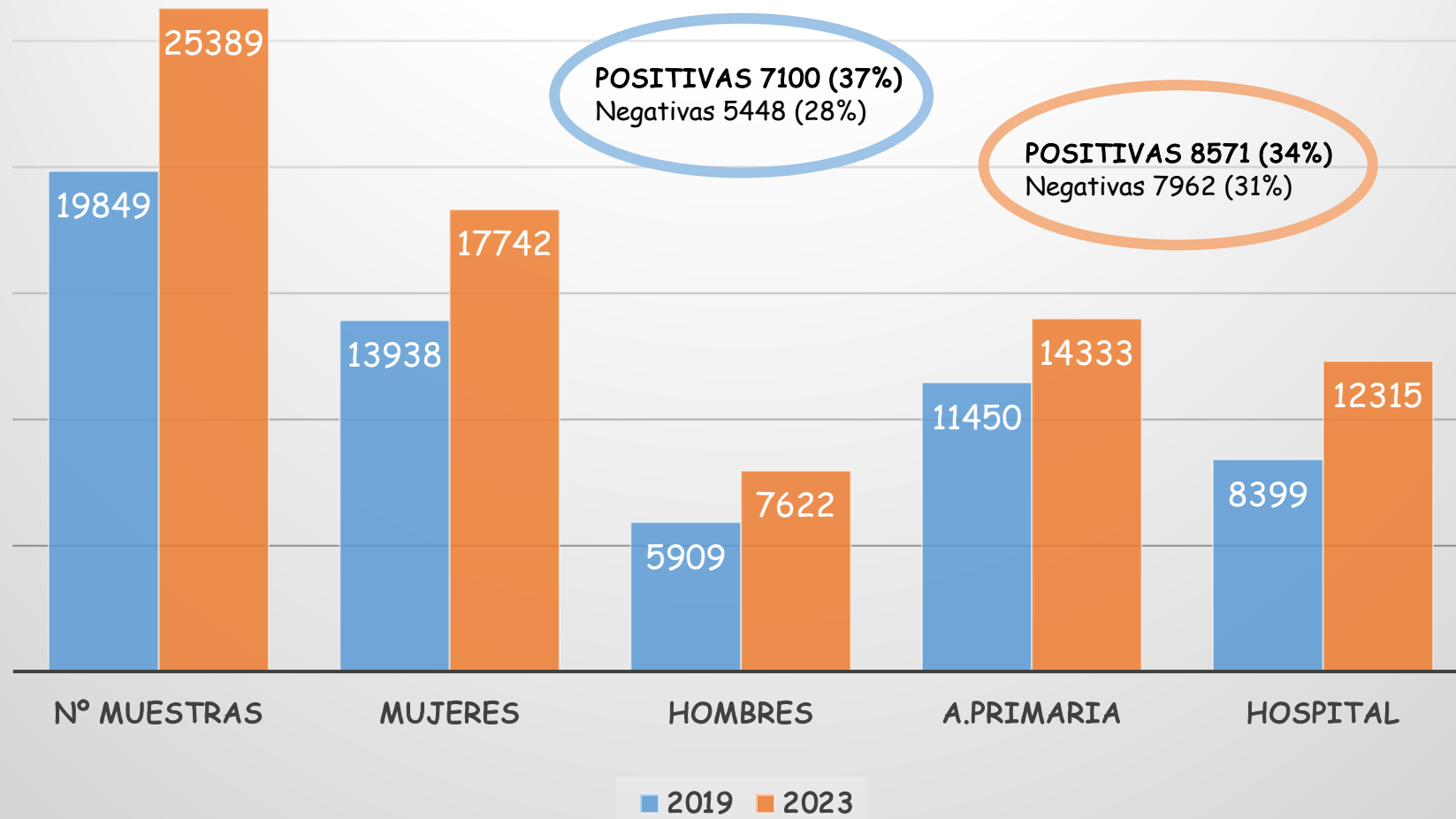
2019



2023



# URINOCULTIVOS CAULE



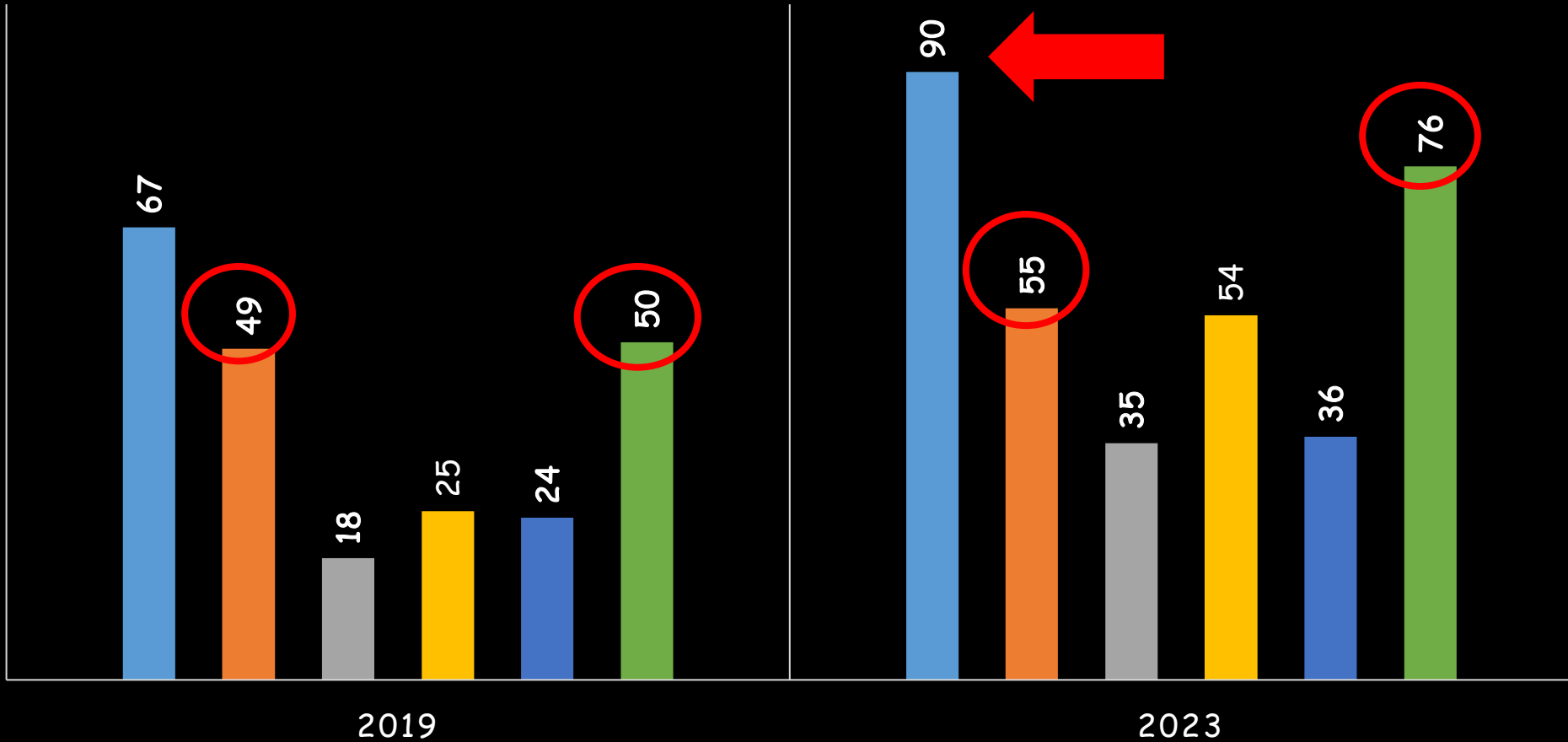
## C. urealyticum

- \* Se caracteriza por
  - > Gen ureasa
  - > Capacidad de sintetizar *pili*
  - > Biofilms
  - > Elevada resistencia
  
- \* Tríada en ITU
  - Cristales estruvita y carbonato-apatita
  - pH alcalino
  - Piuria- hematuria
  
- \* Tratamiento
  - > Eliminar cuerpos extraños
  - > Desincrustar cálculos
  - > Acidificar orina
  - > Antibiótico
    - Penicilina
    - Ciprofloxacino
    - Clindamicina
    - Rifampicina
    - Tetraciclina
    - Vancomicina
    - Linezolid



# C. UREALYTICUM

■ AISLAMIENTOS ■ VARONES ■ MUJERES  
■ MICCIÓN MEDIA ■ DISPOSITIVOS ■ HOSPITAL





## *A. urinae*

\* Asociado a 3ª edad y con patología urinaria previa



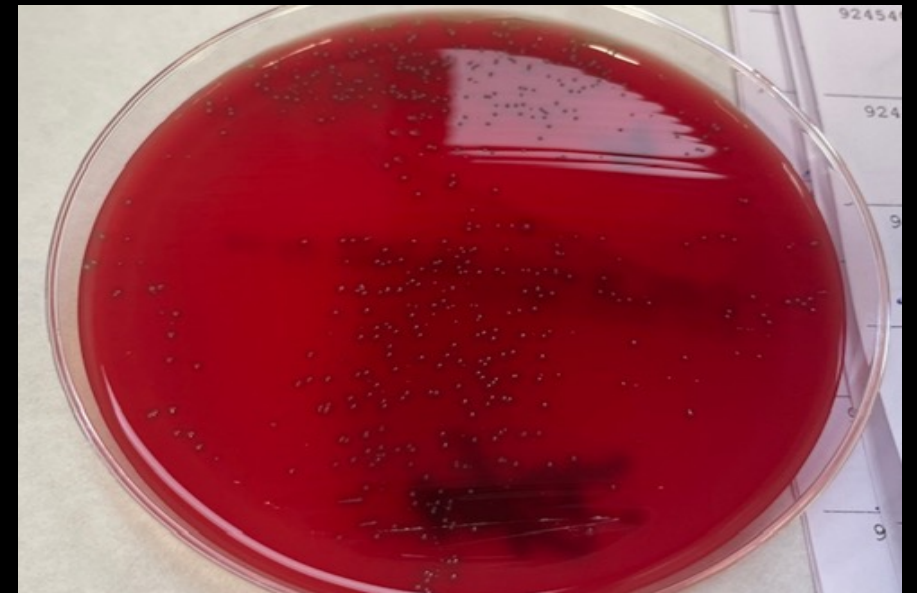
Baja prevalencia ??????

\* Procesos asociadas

- Bacteriemia
- Endocarditis (biofilm)
- Meningitis
- Infecciones piel y partes blandas
- Infecciones osteoarticulares

\* Antibiograma en EUCAST desde 2018:

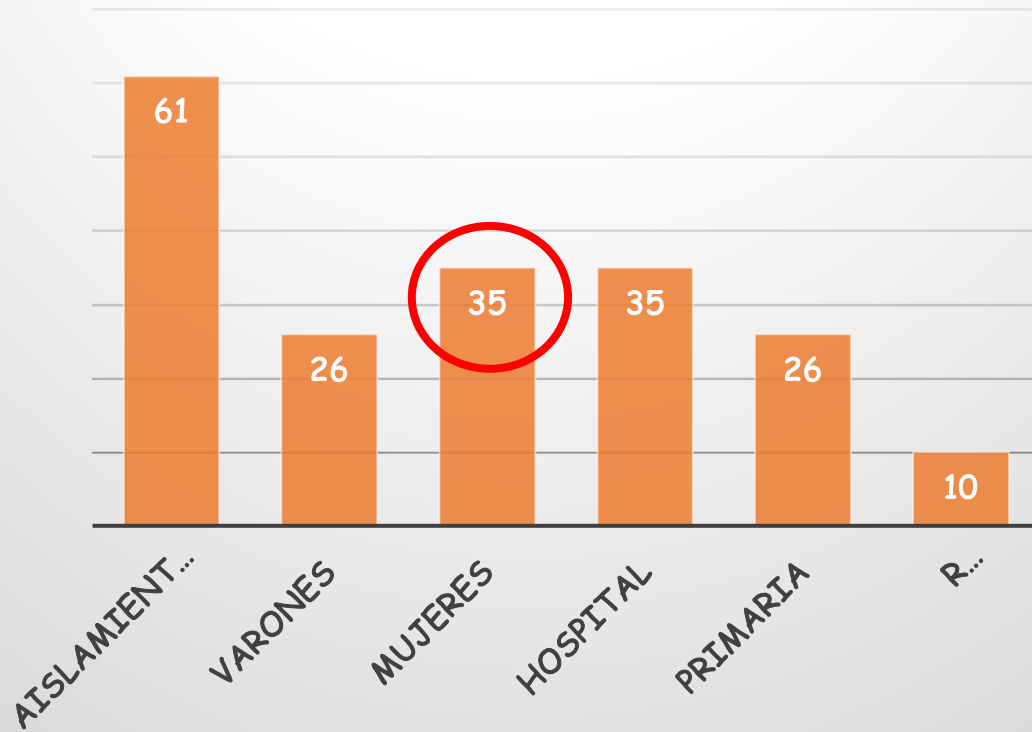
- > Penicilina
- > Meropenem
- > Vancomicina
- > Levofloxacino
- > Norfloxacino (screening)
- > Nitrofurantoína



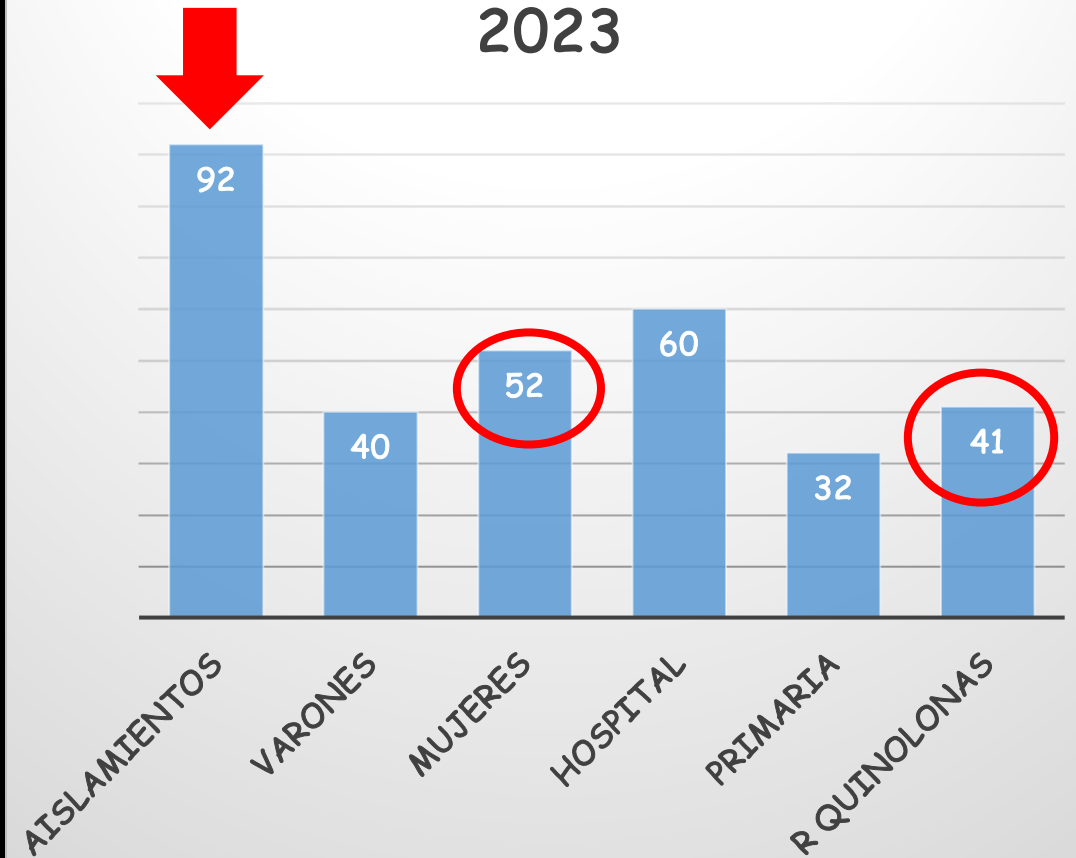
# A.urinae

72%  
MICCIÓN MEDIA

2019



2023



# O.urethralis

- \* Microorganismo comensal aparato genitourinario
- \* Sus 2 únicos representantes son:
  - > *O.urethralis* (antes género *Moraxella*)
  - > *O.ureolytica* (antes grupo CDC IVe)
- \* Asociada a factores de riesgo, sobre todo inmunosupresión
- \* NO ANTIBIOGRAMA NORMALIZADO

## Oligella infections: Case report and review of the literature

MAHIN BAQI MD FRCP, TONY MAZZULLI MD FRCP

M BAQI, T MAZZULLI. Oligella infections: Case report and review of the literature. *Can J Infect Dis* 1996; 7(6):377-379. A case of *Oligella ureolytica* infection of a cervical lymph node is presented and previous cases of oligella infection reported in the literature are reviewed. Underlying malignancy and urinary tract obstruction were observed in many of the cases. All patients responded to antimicrobial therapy and, in those cases associated with urinary tract obstruction, surgical relief of the obstruction. The microbiology and clinical features of oligella infections are reviewed.

Key Words: *Lymph node infection*, *Oligella ureolytica*

Infections à *Oligella* : rapport de cas et synthèse de la littérature

RÉSUMÉ : Un cas d'infection à *Oligella ureolytica* d'un ganglion lymphatique cervical est présenté et des cas antérieurs d'infection à *Oligella* sont signalés dans la littérature et passés en revue ici. Une néoplasie sous-jacente et une obstruction des voies urinaires ont été observées dans de nombreux cas. Tous les patients ont répondu au traitement antimicrobien et les cas associés à l'obstruction des voies urinaires ont été traités chirurgicalement. La microbiologie et les caractéristiques cliniques des infections à *Oligella* sont passés en revue.

### Case Report

## The First Lethal Infection by *Oligella ureolytica*: A Case Report and Review of the Literature

Pierre Serandour<sup>1</sup>, Chloé Plouzeau<sup>2</sup>, Anthony Michaud<sup>2</sup>, Lauranne Broutin<sup>2</sup>, Julie Crenniter<sup>1,2,3</sup>, Christophe Burucoa<sup>1,2,3</sup> and Maxime Pichon<sup>1,2,3,\*</sup>

- <sup>1</sup> Université de Poitiers, Faculté de Médecine et Pharmacie, 86000 Poitiers, France
- <sup>2</sup> CHU de Poitiers, Département des Agents Infectieux, 86021 Poitiers, France
- <sup>3</sup> Université de Poitiers, INSERM U1070, Pharmacologie des Agents Antimicrobiens et Antibiorésistance, 86022 Poitiers, France
- \* Correspondence: maxime.pichon@chu-poitiers.fr; Tel: +33-0549444143

**Abstract:** *Oligella ureolytica* is a Gram-negative bacillus, a member of the *Alcaligenaceae* family, that had never previously been reported as lethal. Herein, a case of fatal infection caused by *Oligella ureolytica* in an elderly woman with suspected bladder cancer is reported. The species identification was confirmed through Sanger sequencing of the bacterial 16S rRNA sequence and compared to published sequences for phylogenetic analysis. Initial antibiotic therapy with ceftriaxone and oxacillin was initiated but had to be switched due to resistance. Ceftazidime in combination with metronidazole was administered, unfortunately failing to prevent the patient's death. Further studies are needed to explore additional factors influencing clinical outcomes in *Oligella ureolytica* infections.

**Keywords:** *Oligella ureolytica*; *Alcaligenaceae*; Gram negative bacillus; 16S rDNA sequencing; Sanger sequencing



Citation: Serandour P, Plouzeau C, Michaud A, Broutin L, Crenniter J, Burucoa C, Pichon M. The First Lethal Infection by *Oligella ureolytica*: A Case Report and Review of the Literature. *Antibiotics* 2023, 12, 1470. <https://doi.org/10.3390/antib12091470>

Academic Editor: Mehran Morchi

Received: 19 August 2023  
Revised: 12 September 2023  
Accepted: 19 September 2023  
Published: 21 September 2023

### 1. Introduction

Discovered and described in scientific literature in 1990, *Oligella ureolytica* is a Gram-negative bacteria that belongs to the *Oligella* genus, which is a member of the *Alcaligenaceae* family [1]. The *Alcaligenaceae* family consists of Gram-negative bacteria that are widely distributed in natural environments such as soil, water, and plants [1]. As these bacteria are known for their metabolic versatility, particularly their ability to metabolize a wide range of organic compounds, they are found in both the environment and in clinical settings, where they can act as opportunistic pathogens. The *Oligella* genus, so named because of the small size of the bacilli on Gram stain, has been isolated from a variety of clinical samples and associated with infections such as those of the urinary tract, encompassing several species, including *Oligella urethralis* and *Oligella ureolytica* [2]. These bacteria have attracted attention due to their clinical importance and their association with various infections in humans. Understanding the characteristics and distinctions between these species is essential for accurate diagnosis and effective management of *Oligella*-related infections. *Oligella urethralis*, formerly classified as *Moraxella urethralis* or Centers for Disease Control

Cureus

Open Access Case Report

DOI: 10.7759/cureus.35133

## Deep Brain Stimulator Infection by *Oligella*: A Case Report and Review of the Literature

Matthew K. Edwards<sup>1</sup>, Vidya Kollu<sup>2</sup>, Gautam S. Kalyatanda<sup>2</sup>

<sup>1</sup> Department of Infectious Diseases and Global Medicine, Case Western Reserve University School of Medicine, Cleveland, USA <sup>2</sup> Department of Infectious Diseases and Global Medicine, University of Florida College of Medicine, Gainesville, USA

Corresponding author: Vidya Kollu, [vsokollu@gmail.com](mailto:vsokollu@gmail.com)

Review began 02/02/2023  
Review ended 02/10/2023  
Published 02/18/2023

© Copyright 2023  
Edwards et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### Abstract

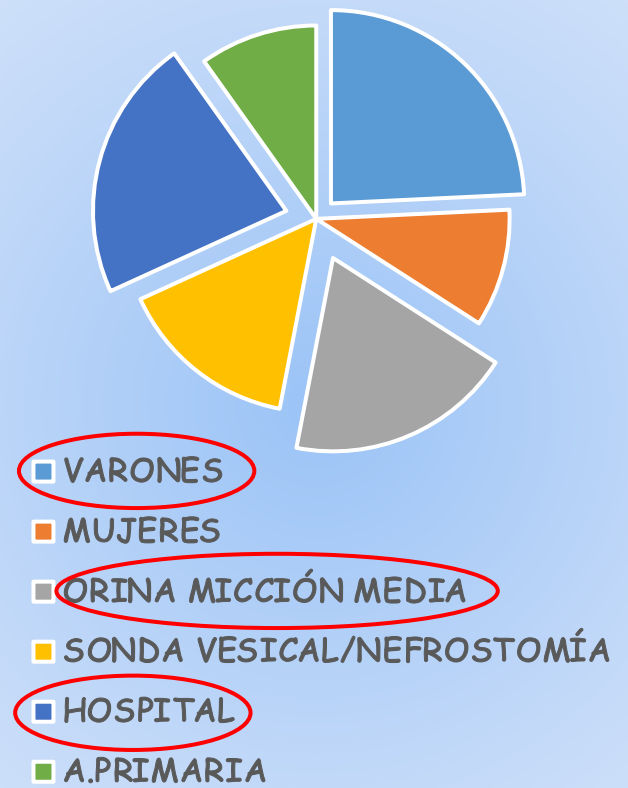
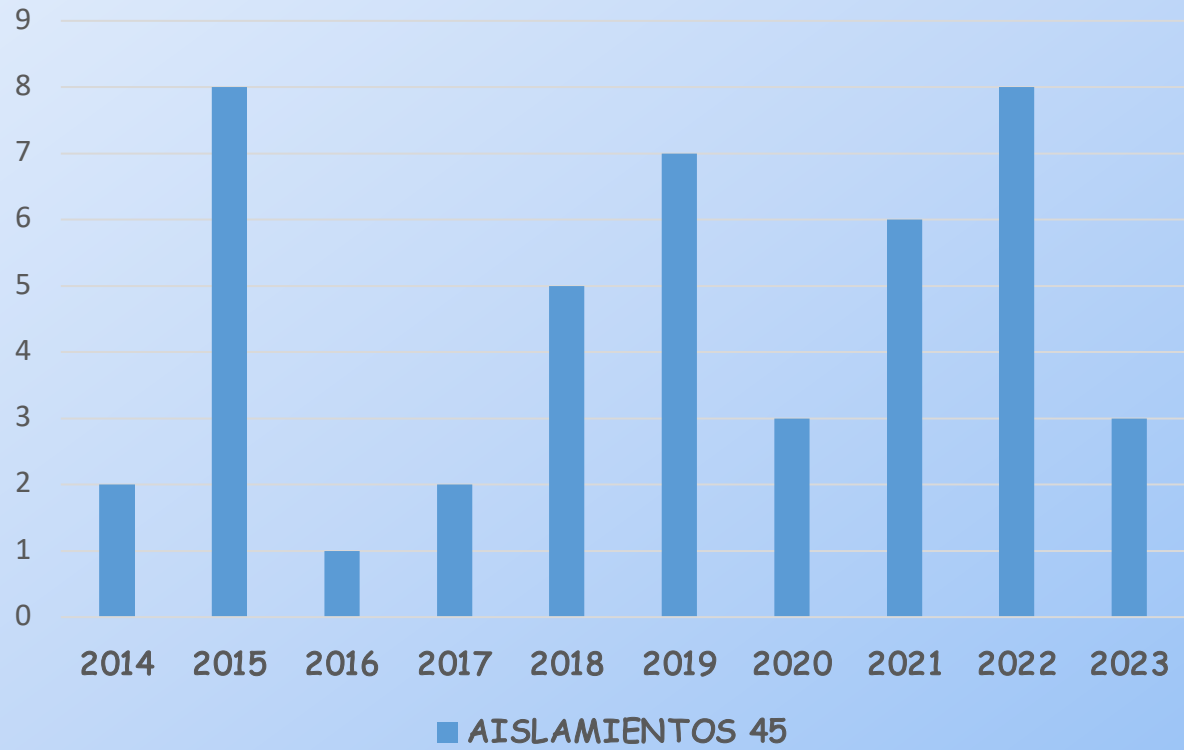
*Oligella* is a commensal bacteria genus of the human urinary tract that rarely precipitates clinical infections. We report the case of an asymptomatic 24-year-old male with a medical history of Tourette syndrome and the recent placement of deep brain stimulator leads, which were found to be co-infected with *Oligella* species during hardware implantation. This is the first reported case of a deep brain stimulator infection by *Oligella*, a potentially under-recognized and emerging opportunistic bacteria. We review the previously published cases of extra-genitourinary *Oligella* infections and detail the clinical management of this uncommon pathogen.

Categories: Neurology, Infectious Disease, Neurosurgery

Keywords: device-associated infection, tourette syndrome, oligella urethralis, deep brain stimulator, oligella ureolytica



## *O.urethralis*

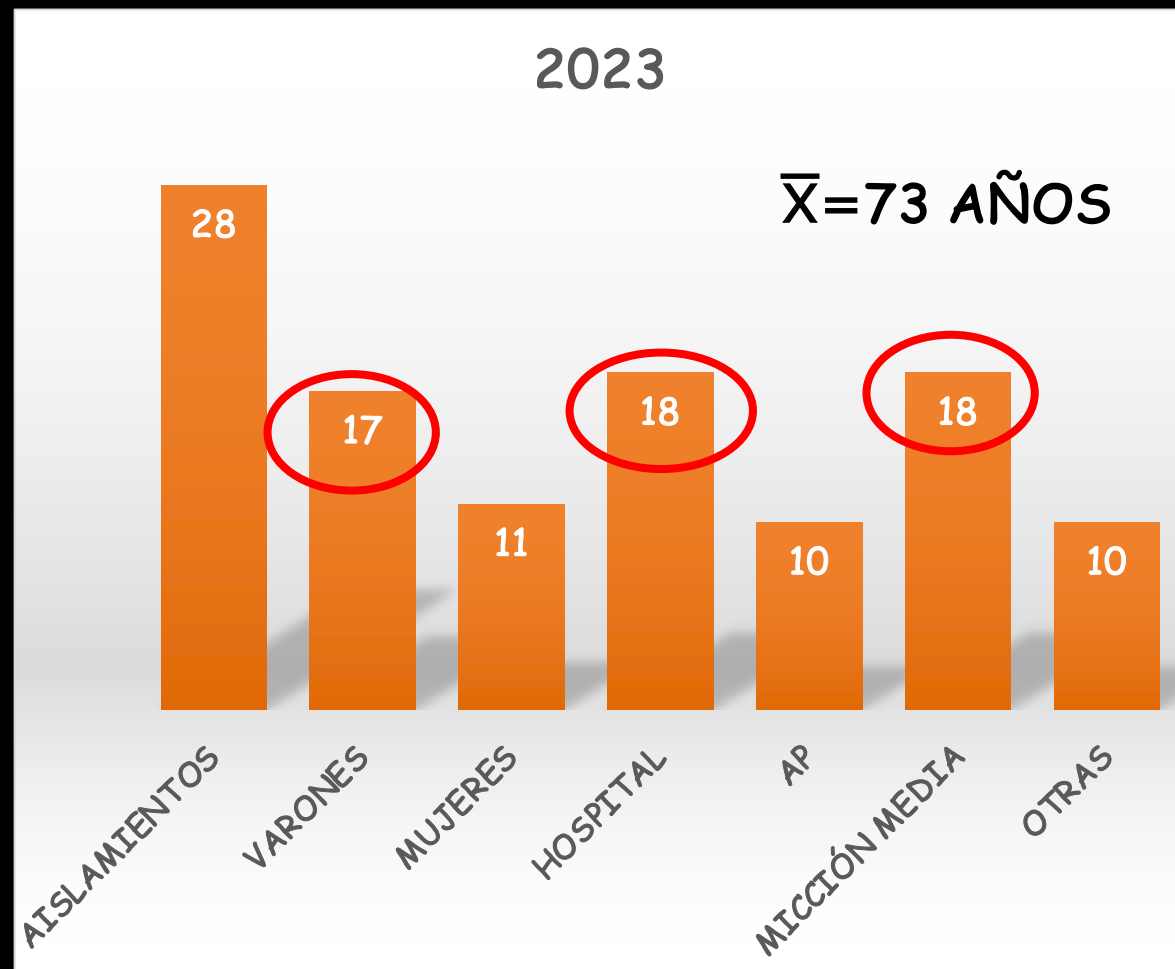
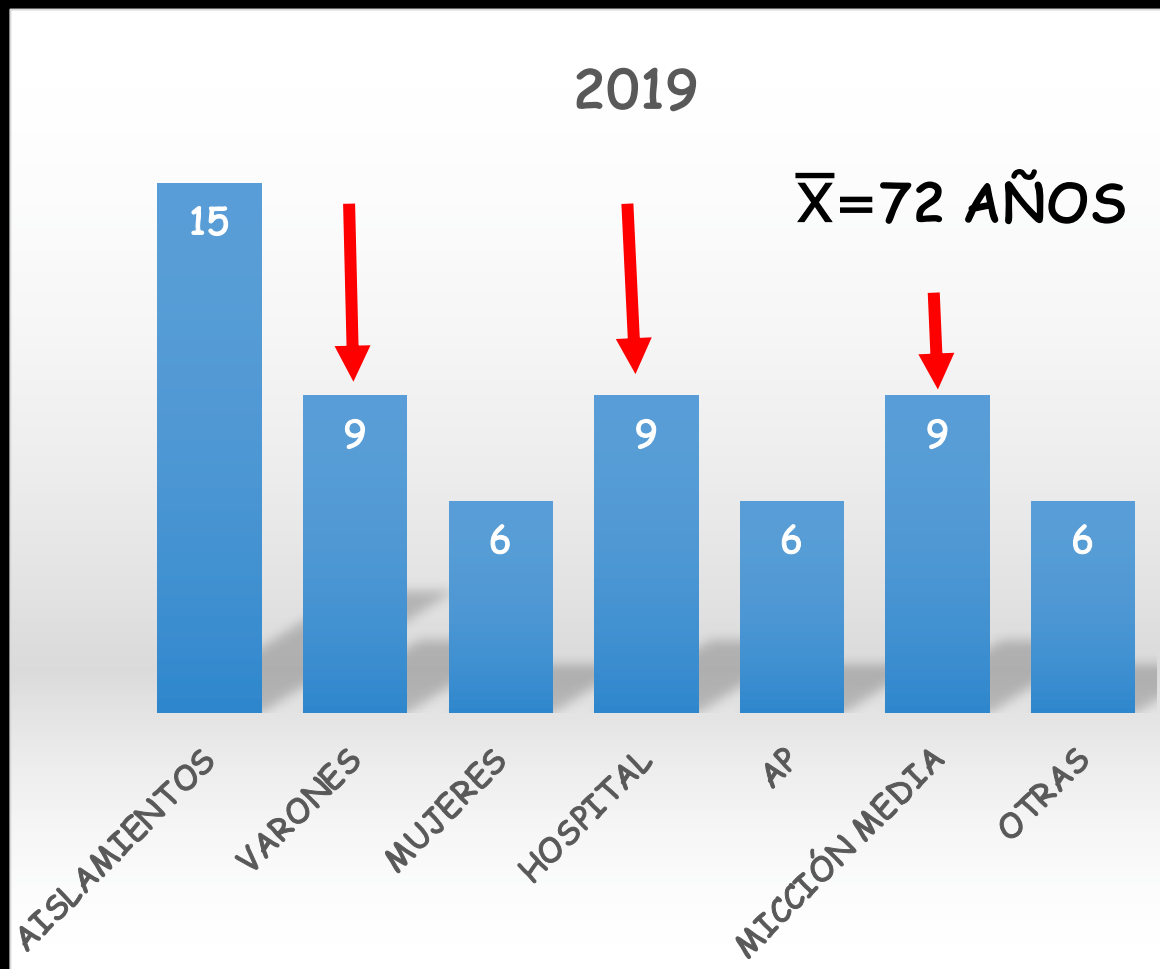


## *A.schaalii*

- \* BGP anaerobio facultativo oportunista
- \* Uropatógeno emergente -> ancianos  
-> patología subyacente urinaria
- \* R intrínseca a metronidazol y colistina
- \* Carece de respuesta empírica a quinolonas y cotrimoxazol
- \* **NO ANTIBIOGRAMA NORMALIZADO**
- \* Nuestro antibiograma
  - > Ampicilina
  - > Cefotaxima
  - > **Gentamicina**
  - > Tetraciclina
  - > Vancomicina
  - > Clindamicina



# *A.schaalii*



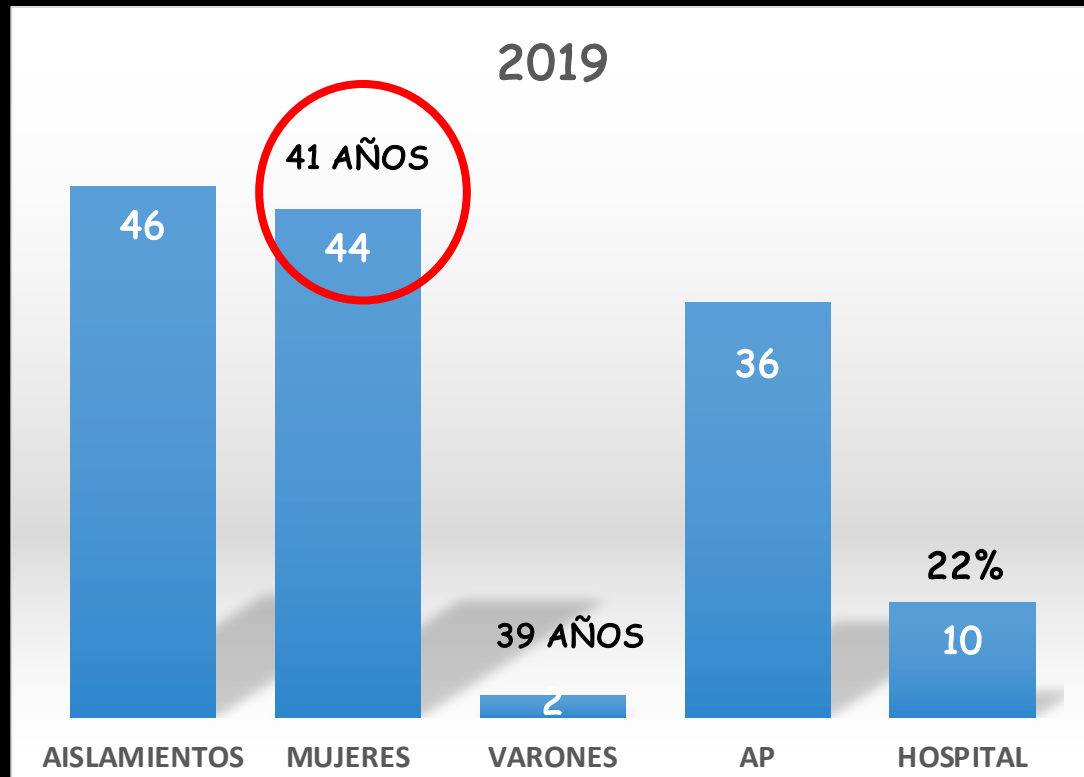
## *G. vaginalis*

- \* Colonizador tracto genital femenino
  - > **Vaginosis bacteriana**
  - > Endometritis post parto
  - > Bacteriemia
  - > Infecciones neonatos
- \* Cuadros raros en varones -> Uretritis
  - > Abscesos perinefríticos
  - > Bacteriemia
- \* Antibiograma de anaerobios
  - > Ampicilina
  - > A+C
  - > Clindamicina
  - > Metronidazol

**POTENCIAL UROPATÓGENO???**



# *G.vaginalis*





Article

# Gardnerella vaginalis in Recurrent Urinary Tract Infection Is Associated with Dysbiosis of the Bladder Microbiome

Jeong-Ju Yoo<sup>1,†</sup>, Ju Sun Song<sup>2,†</sup>, Woong Bin Kim<sup>3,†</sup>, Jina Yun<sup>1</sup>, Hee Bong Shin<sup>4</sup>, Mi-Ae Jang<sup>4</sup>, Chang Beom Ryu<sup>1</sup>, Sung Shin Kim<sup>5</sup>, Jun Chul Chung<sup>6</sup>, Jung Cheol Kuk<sup>6</sup>, Eung Jin Shin<sup>6</sup>, Ho-Yeon Song<sup>7</sup>, Byung Chul Yu<sup>1</sup>, Eek-Sung Lee<sup>8</sup>, Seongho Ryu<sup>9</sup>, Jae Heon Kim<sup>10</sup>, Sung Soo Jung<sup>1</sup>, Young Ho Kim<sup>3,†</sup> and on behalf of the SMS (Soonchunhyang Microbiome Multi-Disciplinary Study Group)<sup>‡</sup>

- <sup>1</sup> Department of Internal Medicine, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; puby17@maver.com (J.-J.Y.); 19983233@schmc.ac.kr (J.Y.); ryuchb@schmc.ac.kr (C.B.R.); nephroyb@schmc.ac.kr (B.C.Y.); sung-soo.jung@schmc.ac.kr (S.S.J.)
  - <sup>2</sup> GC Genome, Department of Laboratory Medicine, Green Cross Laboratories, Seoul 16924, Korea; jsong@gcgenome.com
  - <sup>3</sup> Department of Urology, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; woongbins@schmc.ac.kr
  - <sup>4</sup> Department of Laboratory Medicine and Genetics, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; shinhb@schmc.ac.kr (H.B.S.); miaeyaho@schmc.ac.kr (M.-A.J.)
  - <sup>5</sup> Department of Pediatrics, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; kimss@schmc.ac.kr
  - <sup>6</sup> Department of Surgery, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; capcjc@schmc.ac.kr (J.C.C.); kjc1110@schmc.ac.kr (J.C.K.); colon@schmc.ac.kr (E.J.S.)
  - <sup>7</sup> Department of Microbiology and Immunology, School of Medicine, Soonchunhyang University, Cheonan 31151, Korea; songmic@schmc.ac.kr
  - <sup>8</sup> Department of Neurology, Soonchunhyang University Bucheon Hospital, Bucheon 14584, Korea; eeksung@schmc.ac.kr
  - <sup>9</sup> Department of Integrated Biomedical Science, School of Medicine, Soonchunhyang University, Cheonan 31151, Korea; ryu@sch.ac.kr
  - <sup>10</sup> Department of Urology, Soonchunhyang University Seoul Hospital, Seoul 04401, Korea; piacekjh@schmc.ac.kr
- \* Correspondence: yhkuro@schmc.ac.kr; Tel.: +82-(0)32-621-5463  
 † These authors contributed equally to this work.  
 ‡ All authors are members of SMS (Soonchunhyang Microbiome Multi-Disciplinary Study Group).



Citation: Yoo, J.-J.; Song, J.S.; Kim, W.B.; Yun, J.; Shin, H.B.; Jang, M.-A.; Ryu, C.B.; Kim, S.S.; Chung, J.C.; Kuk, J.C.; et al. *Gardnerella vaginalis* in Recurrent Urinary Tract Infection Is Associated with Dysbiosis of the Bladder Microbiome. *J. Clin. Med.* **2022**, *11*, 2295. <https://doi.org/10.3390/jcm11092295>

Academic Editor: Emilio Sacco

Received: 15 March 2022

Accepted: 19 April 2022

Published: 20 April 2022

**Abstract:** Recent studies on the urine microbiome have highlighted the importance of the gut–vagina–bladder axis in recurrent urinary tract infection (rUTI). In particular, the role of *Gardnerella* as a covert pathogen that activates *E. coli* in animal experiments has been reported. Herein, we conducted a human bladder microbiome study to investigate the effect of *Gardnerella* on rUTI. Urine 16S ribosomal RNA gene sequencing via transurethral catheterization was conducted in the normal control group (NC) ( $n = 18$ ) and rUTI group ( $n = 78$ ). The positive detection rate of *Gardnerella* species did not differ between the NC and rUTI groups (22.2% vs. 18.0%,  $p = 0.677$ ). In addition, the *Gardnerella*-

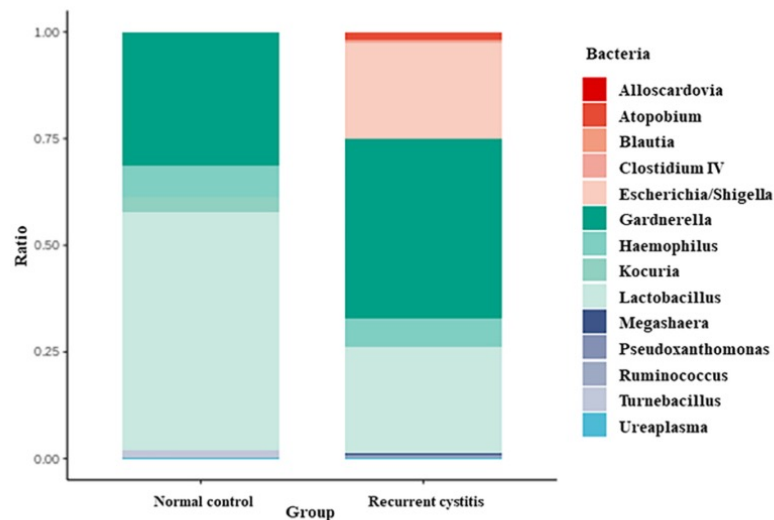


Figure 1. Relative abundance of urinary microbiota in *Gardnerella* (+) normal control group and *Gardnerella* (+) recurrent UTI group.

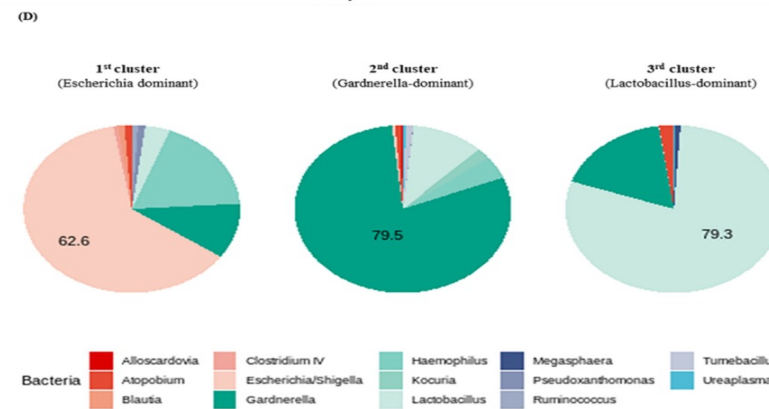
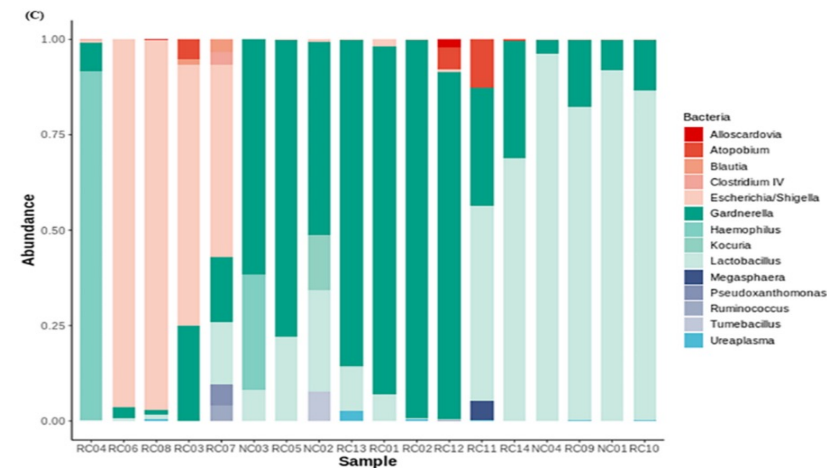


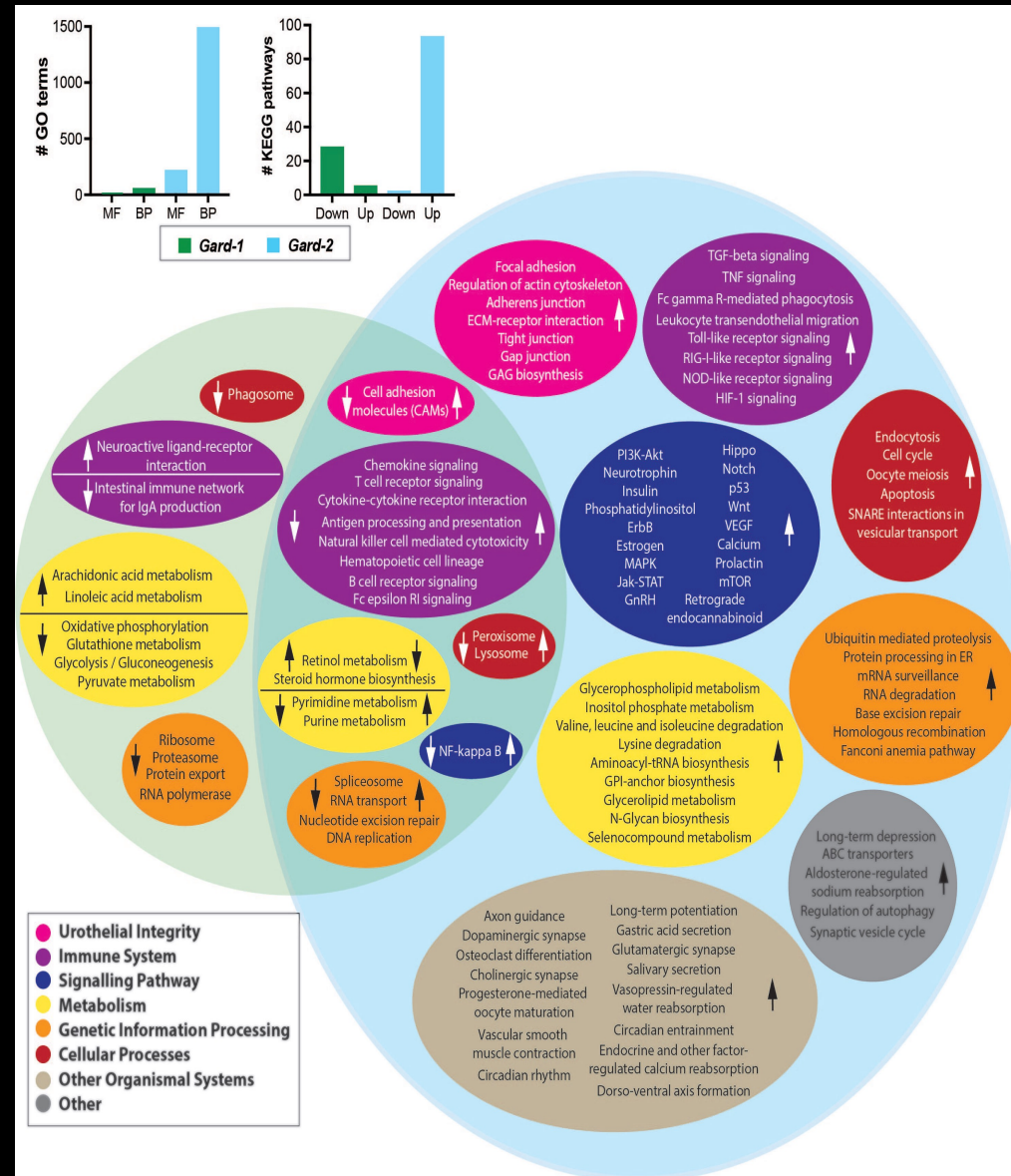
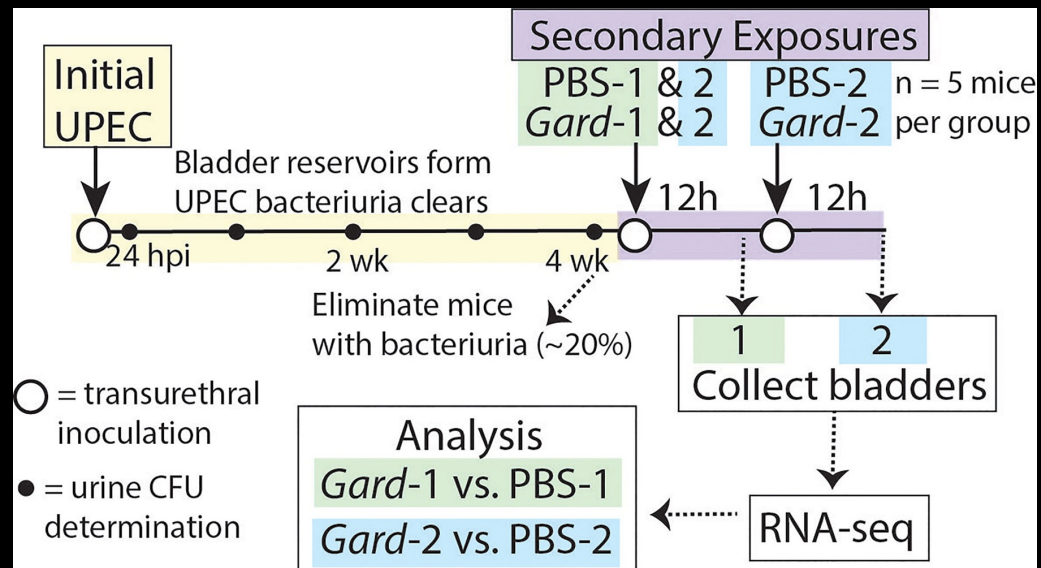
Figure 3. *Gardnerella* (+) urinary microbiota revealed three distinct subgroups by (A) K-medoids clustering and (B) hierarchical clustering in R program version 4.1.2 (The R Foundation for Statistical Computing, Vienna, Austria; <https://svn.r-project.org/R-packages/trunk/cluster>, accessed on 17 March 2021), (C) bar plot, (D) pie chart.



# Bladder Exposure to *Gardnerella* Activates Host Pathways Necessary for *Escherichia coli* Recurrent UTI

Valerie P. O'Brien<sup>1</sup>, Amanda L. Lewis<sup>2</sup> and Nicole M. Gilbert<sup>3\*</sup>

<sup>1</sup> Human Biology Division, Fred Hutchinson Cancer Research Center, Seattle, WA, United States, <sup>2</sup> Department of Obstetrics, Gynecology and Reproductive Sciences, University of California San Diego, San Diego, CA, United States, <sup>3</sup> Department of Pediatrics, Division of Infectious Diseases, Washington University in St. Louis School of Medicine, St. Louis, MO, United States



### Antecedentes

- FRCV: HTA, DL.
- Cirugía recambio valvular aórtica 2011. Estenosis mitral ligera degenerativa. Insuficiencia tricuspídea ligera
- Ca de mama tratado (dada de alta en 2018).
- Anemia crónica microcítica hipocrómica.
- Hipotiroidismo post-radioyodo.
- IQ: Prótesis aórtica, Mastectomía.

### Evolución y comentarios

Además presenta retención urinaria que precisa sondaje e ITU iniciando tratamiento, al alta orina clara y micción espontánea.



Procedencia: HOSPITAL DE LEON      N° Petición: 924013527      Informe: COPIA  
MEDICINA INTERNA      NO CONSTA      29.03.2024

---

**ORINA**

**UROCULTIVOS**

|                 |                                    |     |
|-----------------|------------------------------------|-----|
| CULTIVO         | POSITIVO                           | RCF |
|                 | Recuento superior a 100.000 UFC/ml | RCF |
| Microorganismo: | <i>Gardnerella vaginalis</i>       |     |

**INCIDENCIAS DEL REGISTRO**

|   |   |    |
|---|---|----|
| <b>INCIDENCIA DETECTADA</b>                 |   |    |
| Cumplimentación del volante                 | . | LM |
| No se especifican datos clínicos            | . | LM |
| No se especifica tratamiento antimicrobiano | . | LM |

---

Fecha de Impresión

---

02.04.2024 14:14 Fecha de la Copia

---

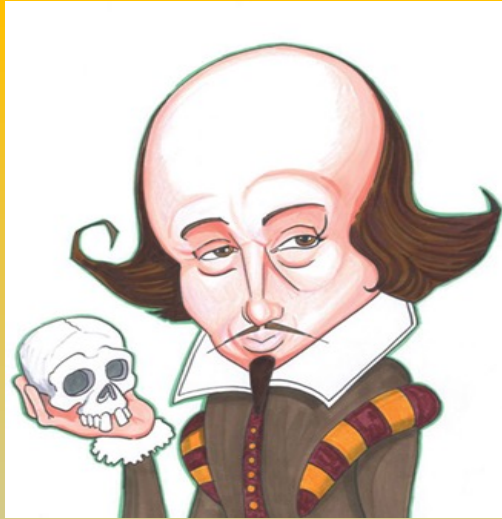
Facultativos Responsables

LM Laboratorio de Microbiología  
RCF Dra. Raquel Calleja Fernández

### Tratamiento

Cefuroxima 500 cada 12 horas 4 días y suspender

TRATAR?



NO TRATAR?

- \* Siempre que haya una sonda urinaria: cambio y nueva muestra
- \* Siempre que haya clínica acompañante, valorar tratamiento
- \* Salvo *C.urealyticum*, uso de betalactámicos factible
- \* Informar de datos importantes para establecer incubaciones prolongadas o añadir medios selectivos y poder valorar adecuadamente los aislamientos
- \* No descartar la causalidad del microorganismo sólo por no ser conocido





GRACIAS