



Hospices Civils de Lyon

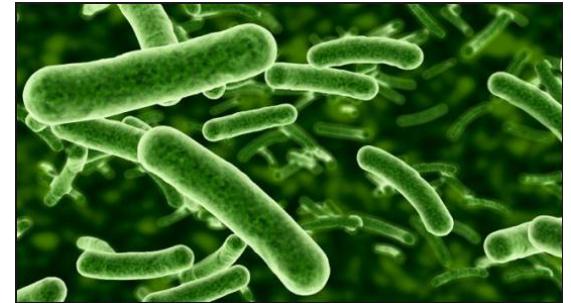


***Corynebacterium* bone and joint infection (BJI): a retrospective cohort from a BJI reference center.**

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on behalf of the **Lyon BJI study group**

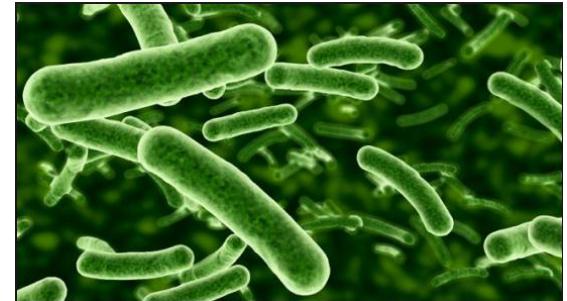
Background



➤ *Corynebacterium* :

- ✓ Frequent contaminant of bone sample cultures
- ✓ Clinical and epidemiological features poorly known
- ✓ Antimicrobial resistance issue

Objectives and methods



➤ Retrospective cohort study

➤ OBJECTIVE 1

Description of all patients with proven *Corynebacterium* BJI followed up at the Lyon teaching hospital reference centre
excluding decubitus ulcer- and diabetic foot-related BJIs

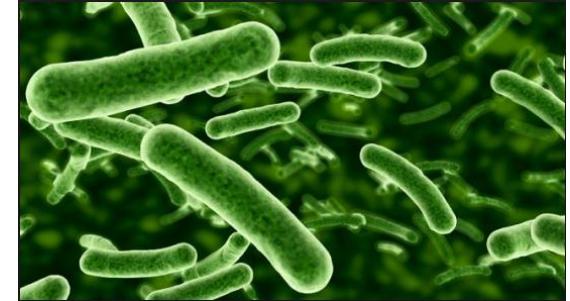
≥ 2 culture-positive intraoperative samples with the same pathogen AND treated as such by the ID physician

➤ OBJECTIVE 2

Assessment of determinants of treatment failure

- Persistent infection
- Relapse
- Second surgery for sepsis
- Superinfection
- Death related to BJI

Results



49 patients

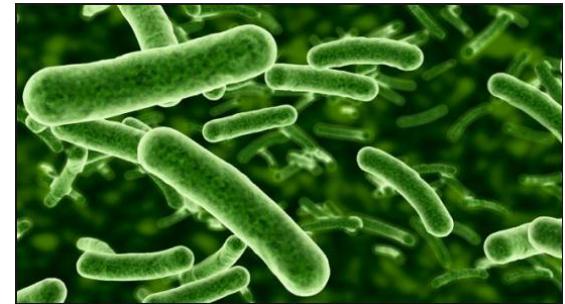
51 BJIs

- ✓ Median age: **54 years**
- ✓ **Male:** 71%
- ✓ **Few comorbidities++**

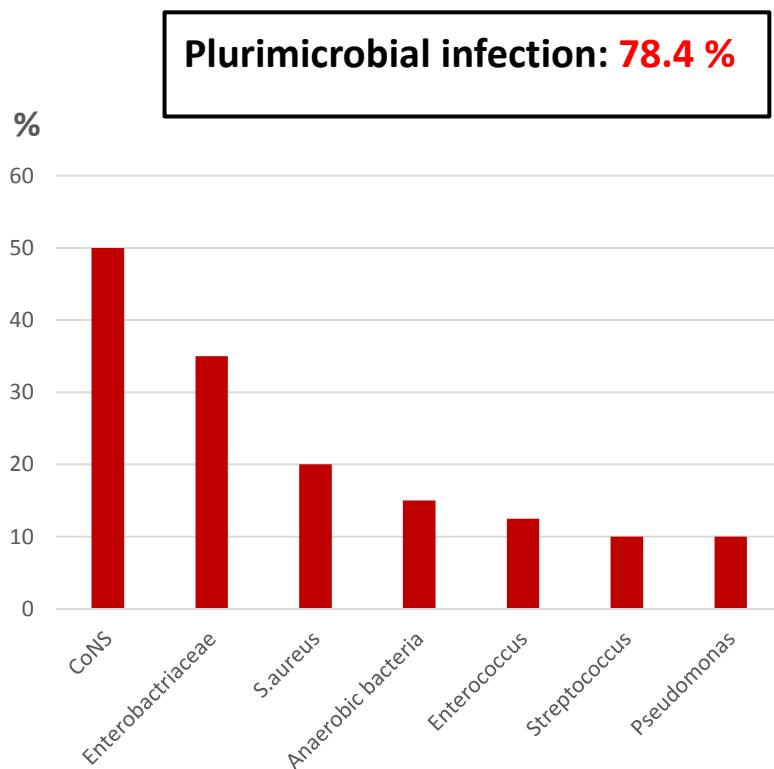
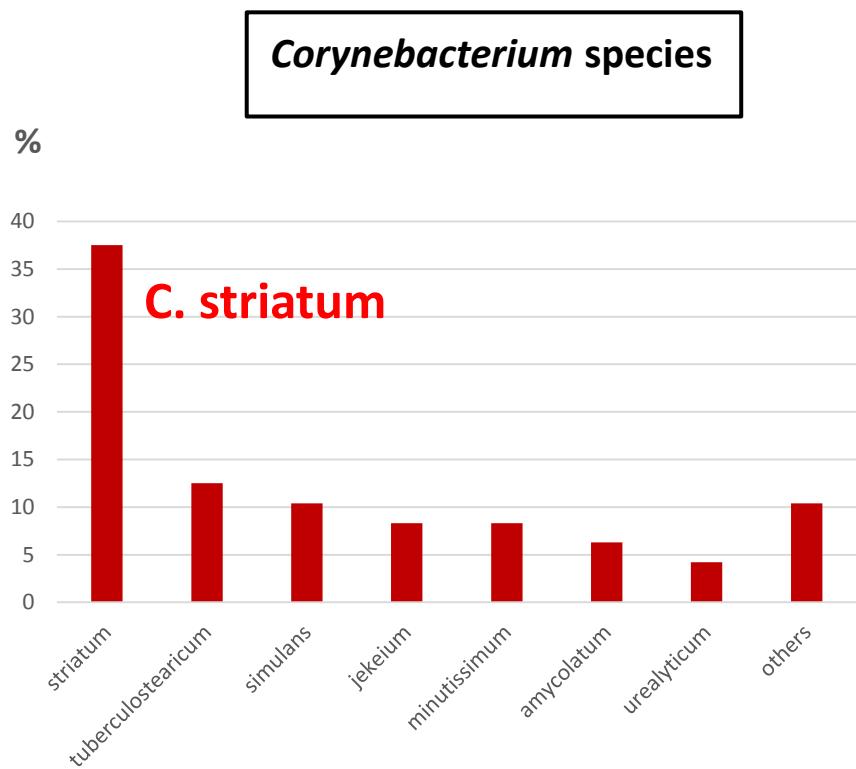


- ✓ **Chronic (> 4 weeks):** 88%
- ✓ **Orthopaedic implant:** 88%
 - Joint prosthesis: 39.5%
 - Osteosynthesis: 60.5%
- ✓ **Superinfection:** 47%

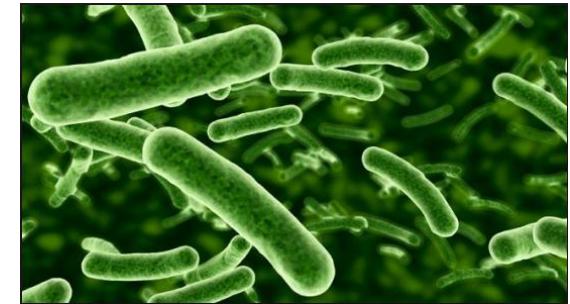
Results



➤ Microbiological documentation

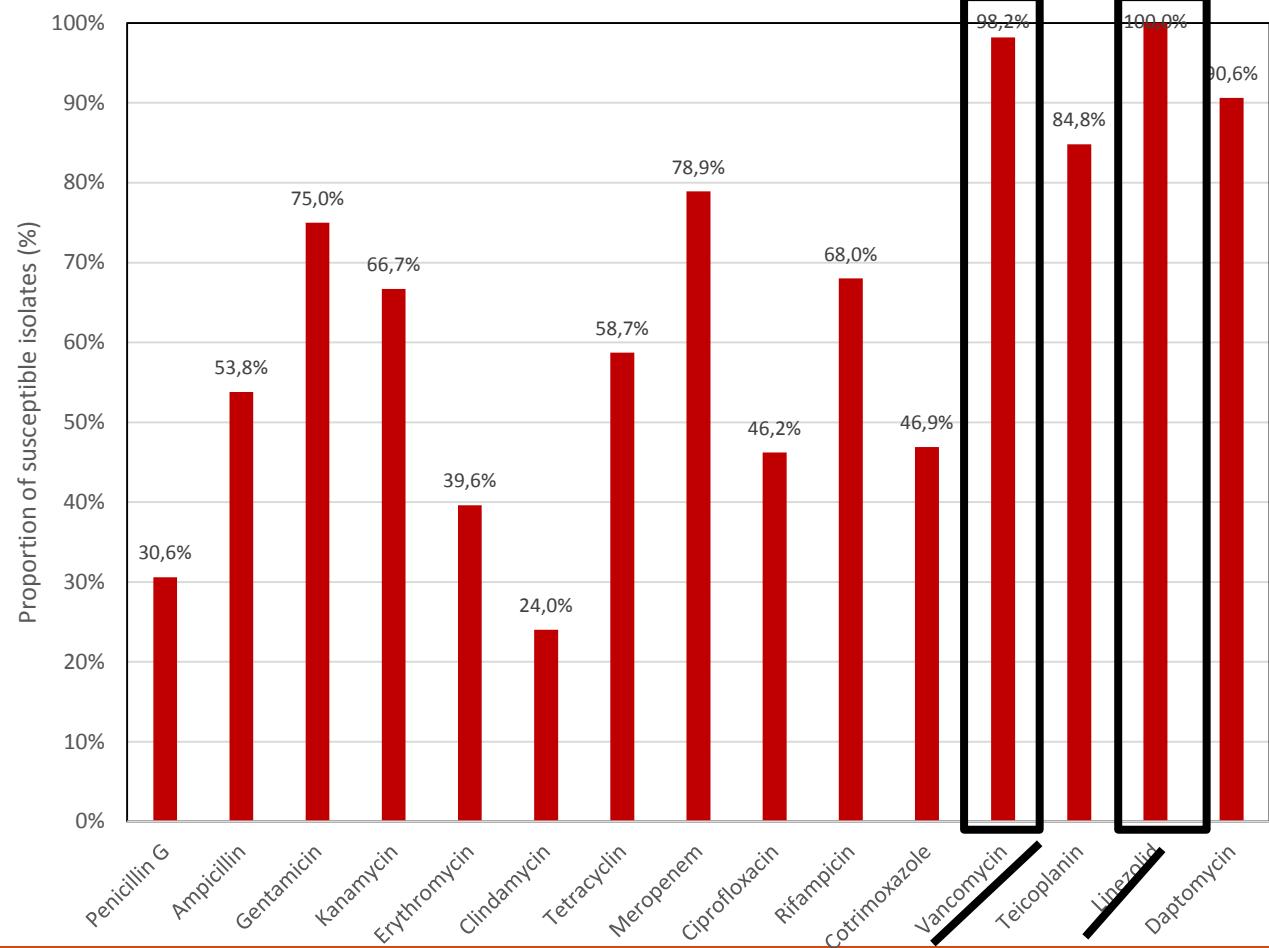


Results

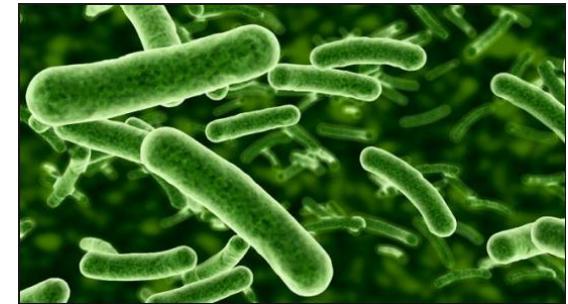


➤ Antimicrobial susceptibility

Vitek 2 AST
Daptomycin E-test®

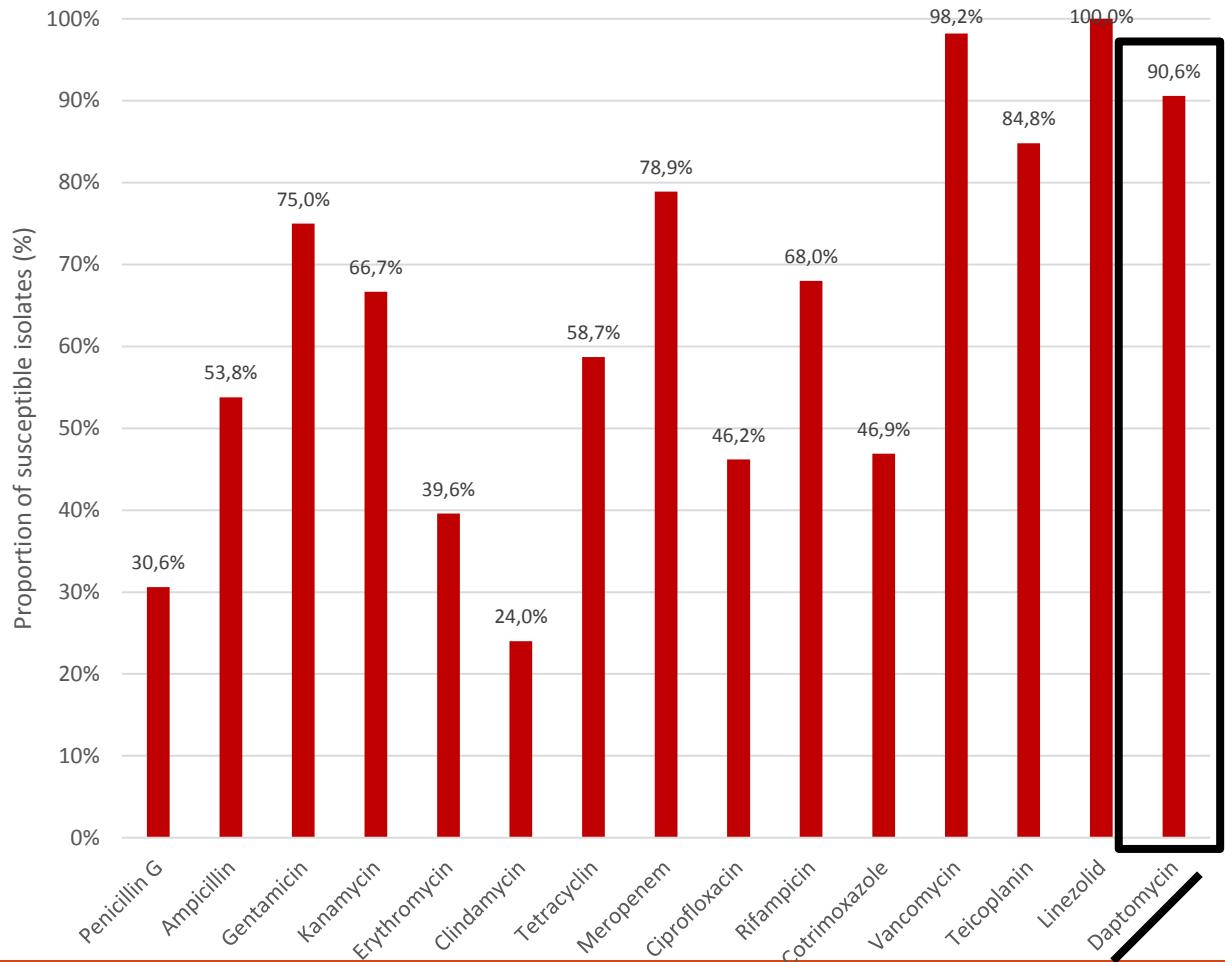


Results



➤ Antimicrobial susceptibility

MIC = 0.064 mg/L
(IQR, 0.032-0.19)





IV 94.1%
14 weeks (IQR 7-18)



**Oral switch
54%**

Median follow-up = 38 weeks

92.2%
Appropriate: 76.5%
2 stages : 46.8%
> 2 stages : 8.5%
Coverage flap: 36.4%

Inappropriate :
- No surgery despite orthopaedic implant or chronic osteomyelitis
- DAIR / chronic orthopaedic device-related infection

Antimicrobial combination therapy : 75%

First line:

- Glycopeptid: 69%
- Betalactam: 50%
- Clindamycin: 10%
- Daptomycin: 6%

Second line:

- Betalactam : 41%
- Glycopeptid : 39%
- Linezolid: 18%
- Clindamycin: 16%
- Daptomycin: 10%

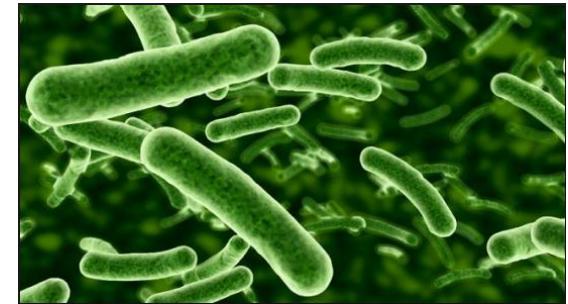
Combination therapy duration: 13 weeks (IQR, 7-17)

**Total duration:
16.3 weeks** (IQR, 12 – 23)

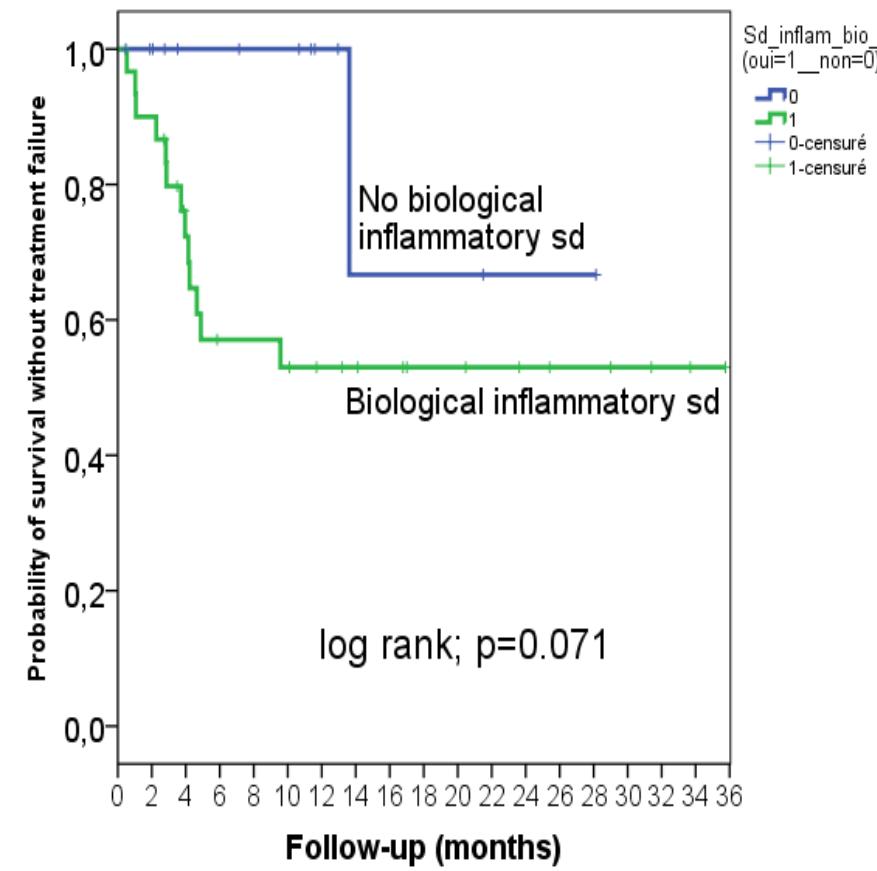


**14 documented
4 with
Corynebacterium
(8%)**

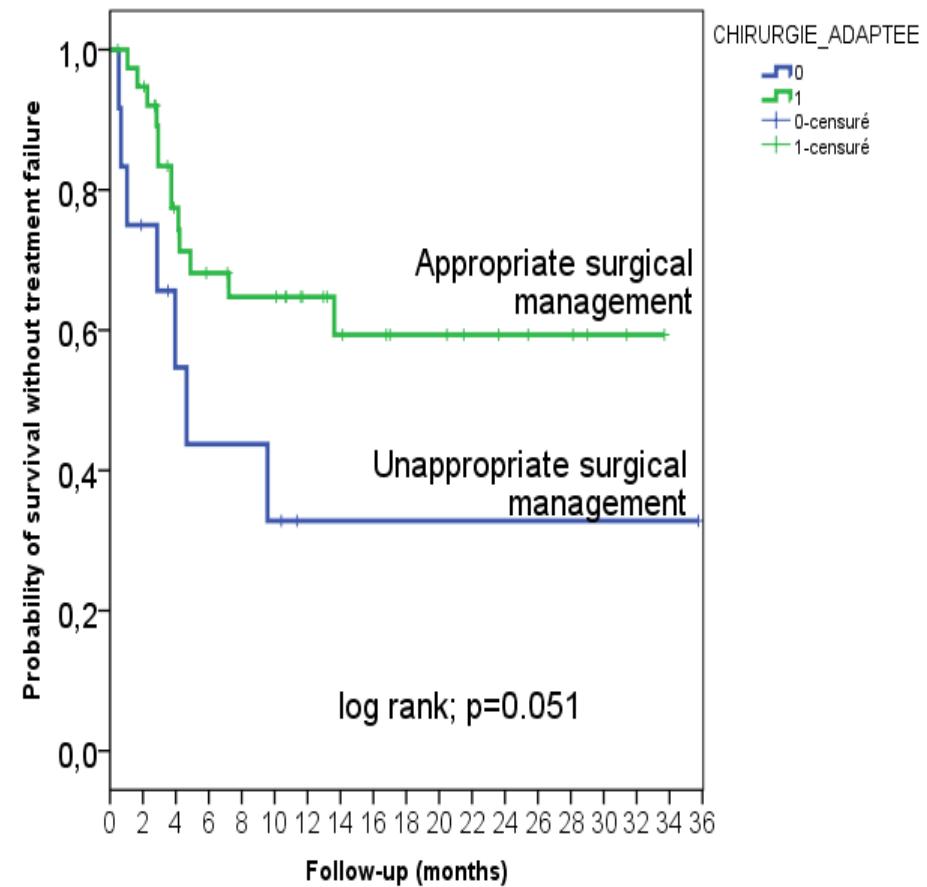
Results



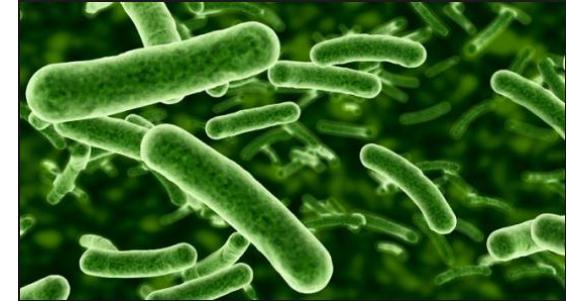
Initial biological inflammatory syndrome
OR=16



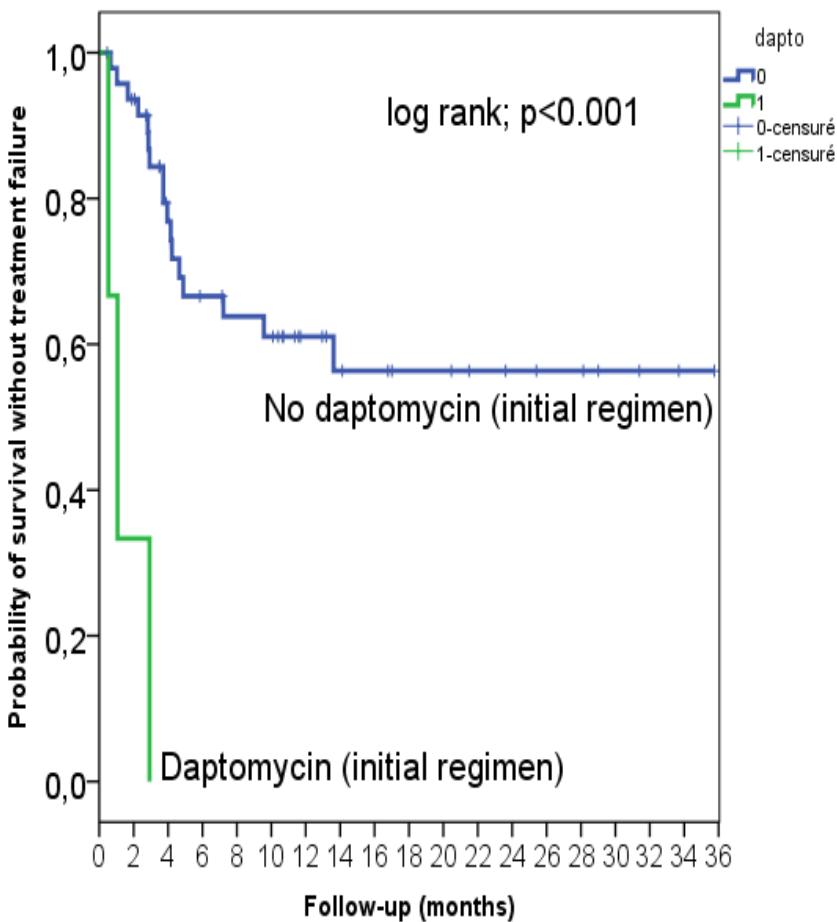
Inappropriate surgical management
OR=7



Results



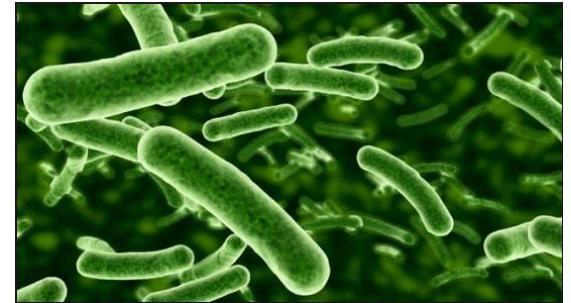
- Daptomycin as first line therapy (3 patients)



→ **2 of 3 failures with a new documented *Corynebacterium* ... despite appropriate surgery**

→ **MIC before/after for one strain**
x2

Conclusions



- *Corynebacterium* BJI = uncommon, chronic and plurimicrobial

- High treatment failure rate, associated with
 - an inappropriate surgical management +++

- Use of daptomycin as first line regimen
 - => Should we avoid it?
 - => Combination therapy?

Lyon BJI study group



- **Coordination:** *Tristan Ferry;*
- **ID physicians** – *Tristan Ferry, Florent Valour, Thomas Perpoint, André Boibieux, François Biron, Patrick Mialhes, Florence Ader, Agathe Becker, Sandrine Roux, Claire Fillit, Fatiha Daoud, Johanna Lippman, Evelyne Braun, Christian Chidiac, Yves Gillet, Laure Hees;*
- **Orthopaedic and plastic/reconstructive surgeons** – *Sébastien Lustig, Elvire Servien, Yannick Herry, Romain Gaillard, Antoine Schneider, Michel-Henry Fessy, Anthony Viste, Philippe Chaudier, Romain Desmarchelier, Tanguy Mouton, Cyril Courtin, Sébastien Martres, Franck Trouillet, Cédric Barrey, Francesco Signorelli, Emmanuel Jouanneau, Timothée Jacquesson, Ali Mojallal, Fabien Boucher, Hristo Shipkov, Joseph Chateau;*
- **Anesthesiologists** – *Frédéric Aubrun, Isabelle Bobineau, Caroline Macabéo;*
- **Microbiologists** – *Frederic Laurent, François Vandenesch, Jean-Philippe Rasigade, Céline Dupieux;*
- **Imaging** – *Fabien Craighero, Loic Boussel, Jean-Baptiste Pialat;*
- **Nuclear medicine** – *Isabelle Morelec, Marc Janier, Francesco Giammarile;*
- **PK/PD specialists** – *Michel Tod, Marie-Claude Gagnieu, Sylvain Goutelle;*
- **Hospital hygien and prevention** – *Solweig Gerbier-Colomban, Thomas Benet;*
- **Clinical research assistant** – *Eugénie Mabrut*

<http://www.crioac-lyon.fr/>

SUPPLEMENTARY DATA

