

Cas clinique interactif n°2 : IOA complexe et Phagothérapie

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Member of the team “Evaluation et Modélisation des Effets Thérapeutiques (EMET)” of the
“Laboratoire de Biométrie et Biologie Evolutive (LBBE)”
Clinical & Educational officer ESCMID Study group for Non-Traditional Antibacterial therapy (ESGNTA)
Centre de Référence des IOA complexes de Lyon (CRIOAc Lyon)



Clinical & Educational officer

ESCMID

Study Group for
Non-traditional Antibacterial
Therapy ESGNTA

PHAGE*in***LYON**
Clinic

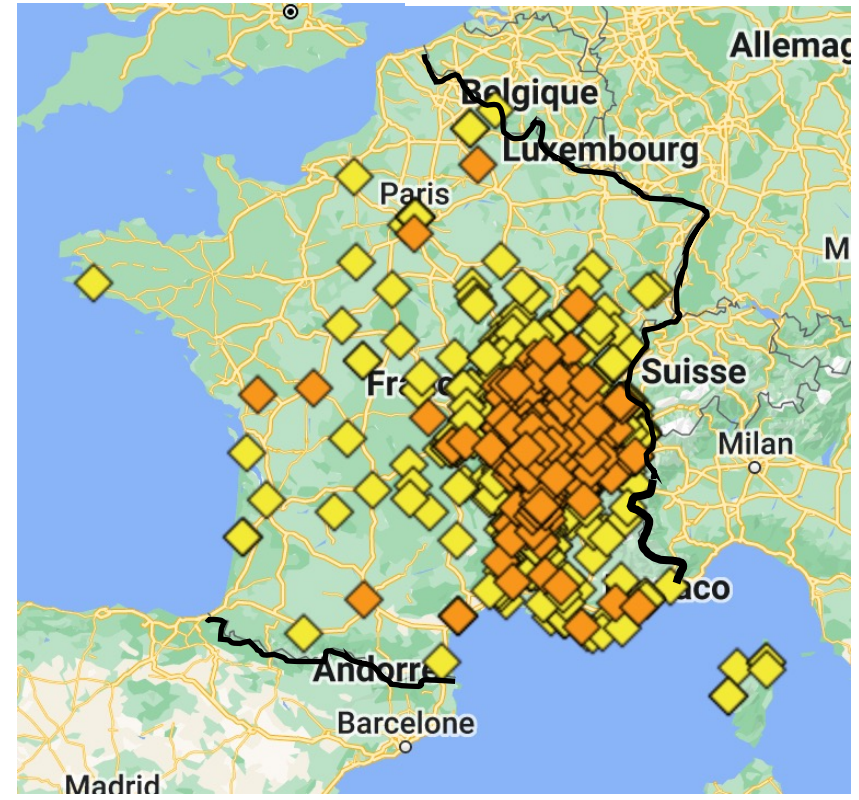


Centre de Référence des IOA complexes



- ◆ 2014-2020
- ◆ 2021

PATIENT'S RESIDENCE



Clinical case #1 (not published)

54-year-old man

Hemophilia A (substitution)

Hemophilic **arthropathy**

Multiple joint prosthesis

Current smoker

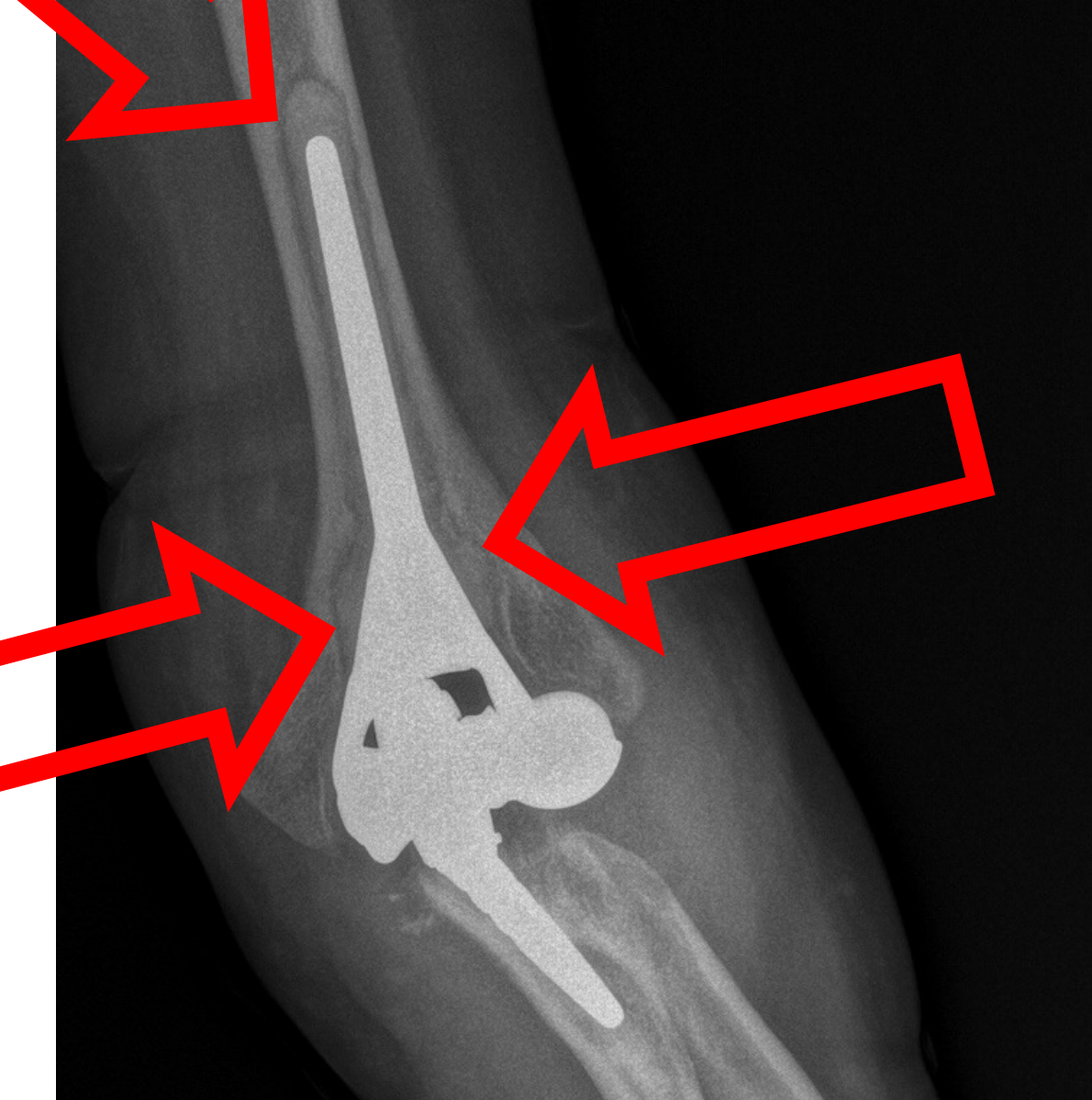
Coronaropathy

Late S. aureus Infection

With Loosening

After left elbow prosthesis revision





PHAGEⁱⁿLYON
Clinic

Clinical case #1

What is the standard of care?

Comment participer ?



Allez sur wooclap.com

Entrez le code d'événement dans le bandeau supérieur

Code d'événement

EKKMCH

Activer les réponses par SMS

Clinical case #1

What is the standard of care?

- 1- No surgery, but suppressive ('palliative') ATBx
- 2- Conservative Surgery with DAIR, ATBx during 3 months and then stop
- 3- Conservative Surgery with DAIR, ATBx during 3 months and then suppressive ATBx
- 3- One-stage exchange, with ATBx during 3 months
- 4- Two-stage exchange, with ATBx during 3 months

Clinical case #1

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Clinical case #1

What do you recommend for this patient?

Comment participer ?



Allez sur wooclap.com

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EKKMCH

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Clinical case #1

What do you recommend for this patient?

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Clinical case #1

What do you recommend for this patient?

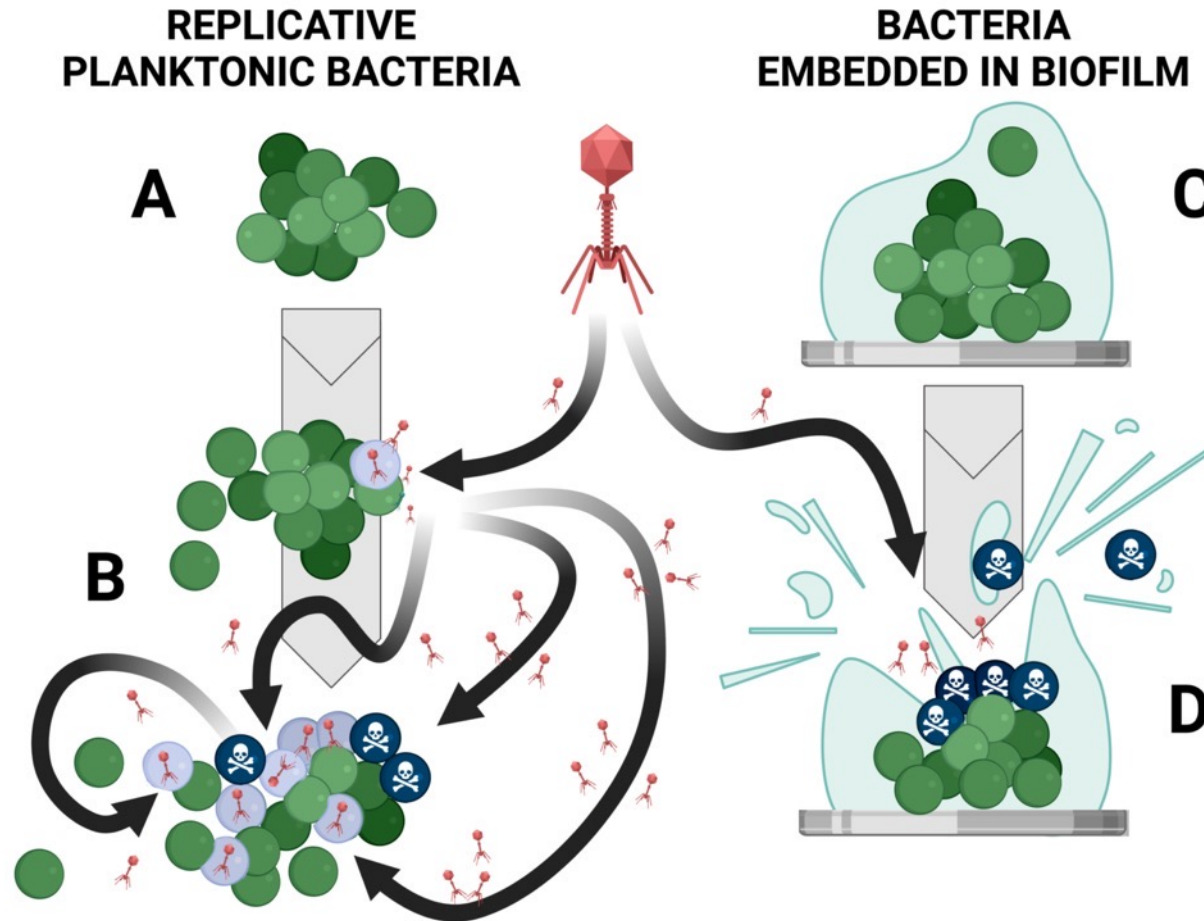
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- 4- Two-stage exchange, with ATBx during 3 months

Bacteria have also their pandemics!



World Health Organization

Non-**T**raditional
Antibacterial
therapy



ESCMID

T. Ferry EFORT Open Reviews 2024

Study Group for
Non-traditional Antibacterial
Therapy ESGNTA

P Infections ostéo-articulaires : Lyon devient le centre expert national pour la phagothérapie

Le centre de référence des infections ostéo-articulaires complexes, basé aux Hospices civils de Lyon, va centraliser toutes les demandes concernant ce traitement de dernier recours, utilisant des virus contre des bactéries résistantes.

Le Progrès - 23 févr. 2023 à 17:51 | mis à jour le 23 févr. 2023 à 18:08 - Temps de lecture : 2 min



RCP CRIOAc
Thérapie innovante



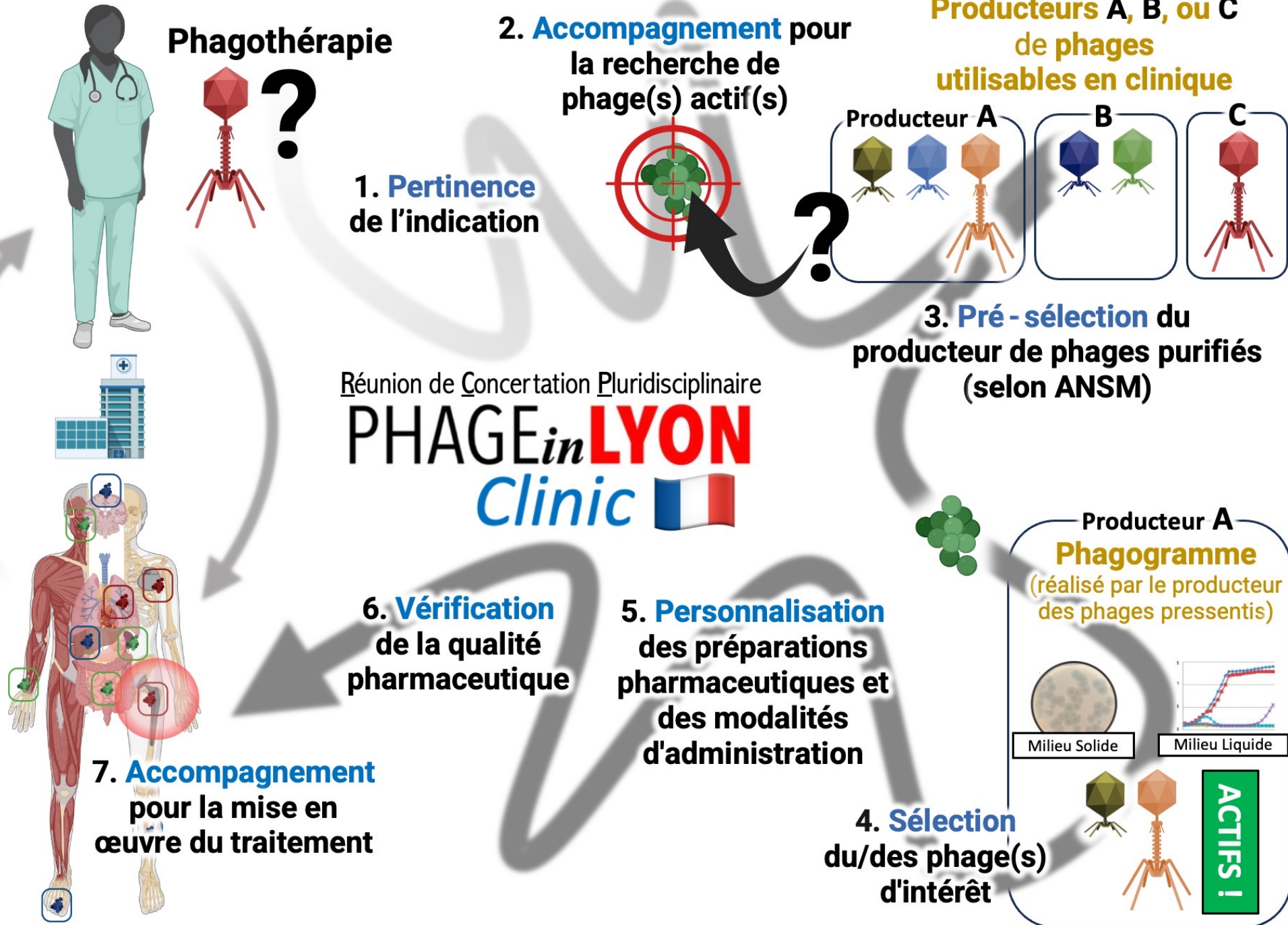
Dédiée aux thérapies
non traditionnelles (OMS)



Mission DGOS de centraliser les avis dans l'indication « Infection Ostéo-Articulaires »

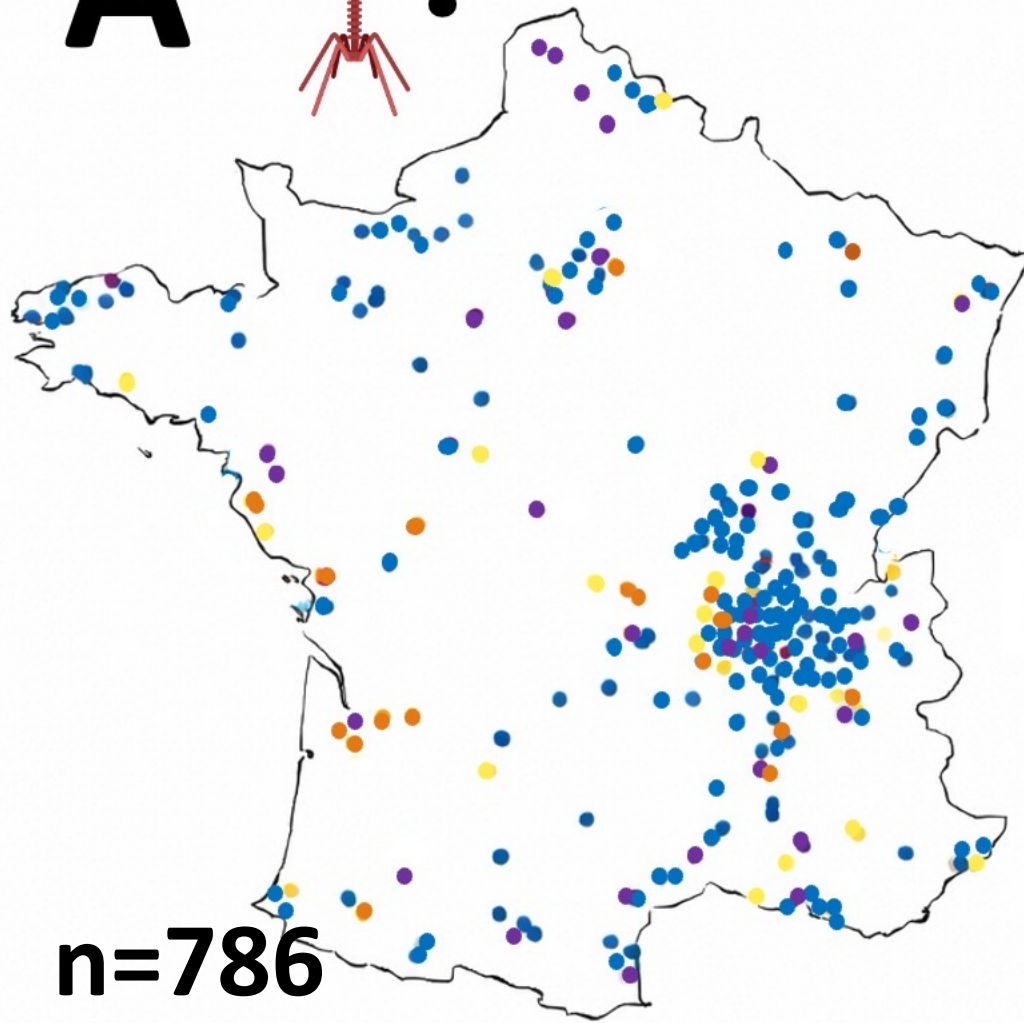
Monday multidisciplinary meeting about complex BJI and potential phage therapy indication





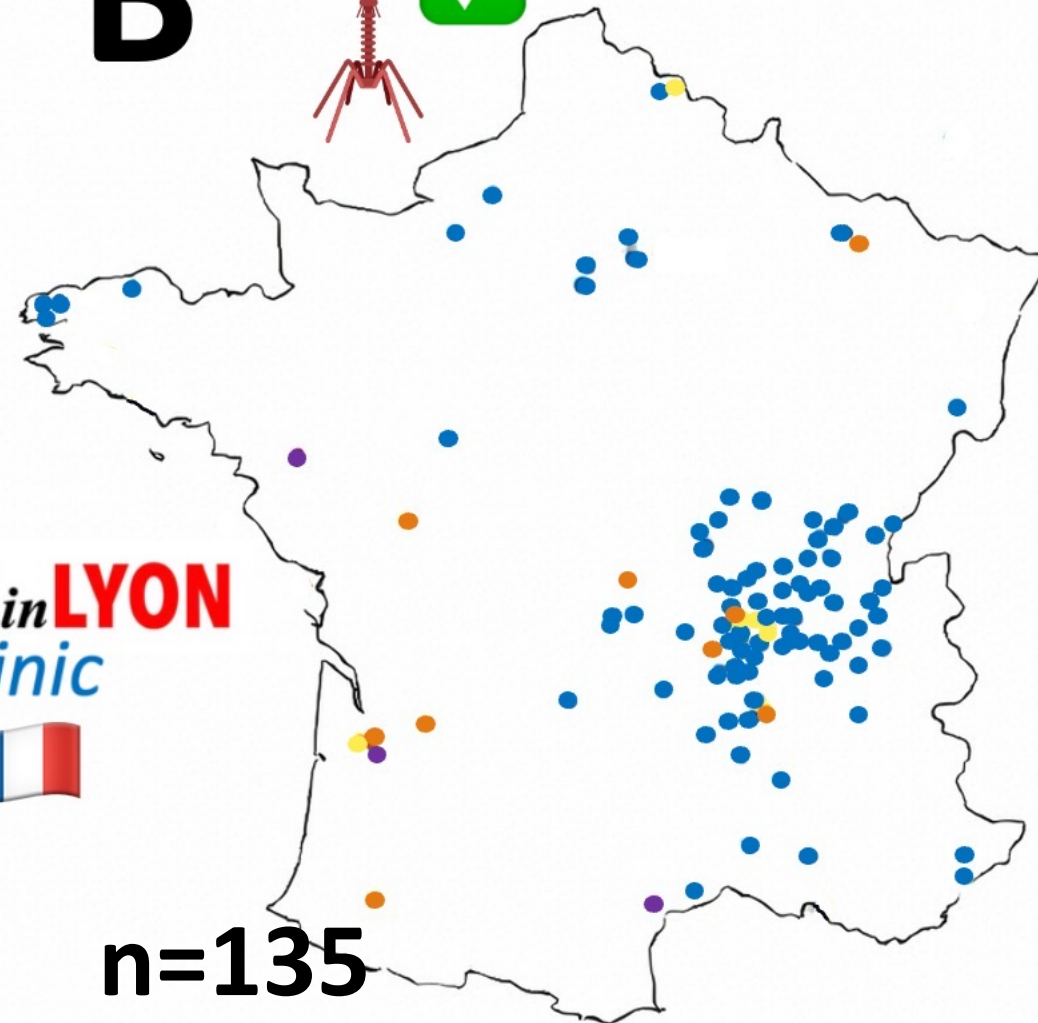
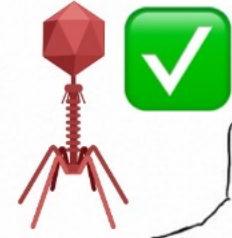
2017-2025

A ?



n=786

B ✓

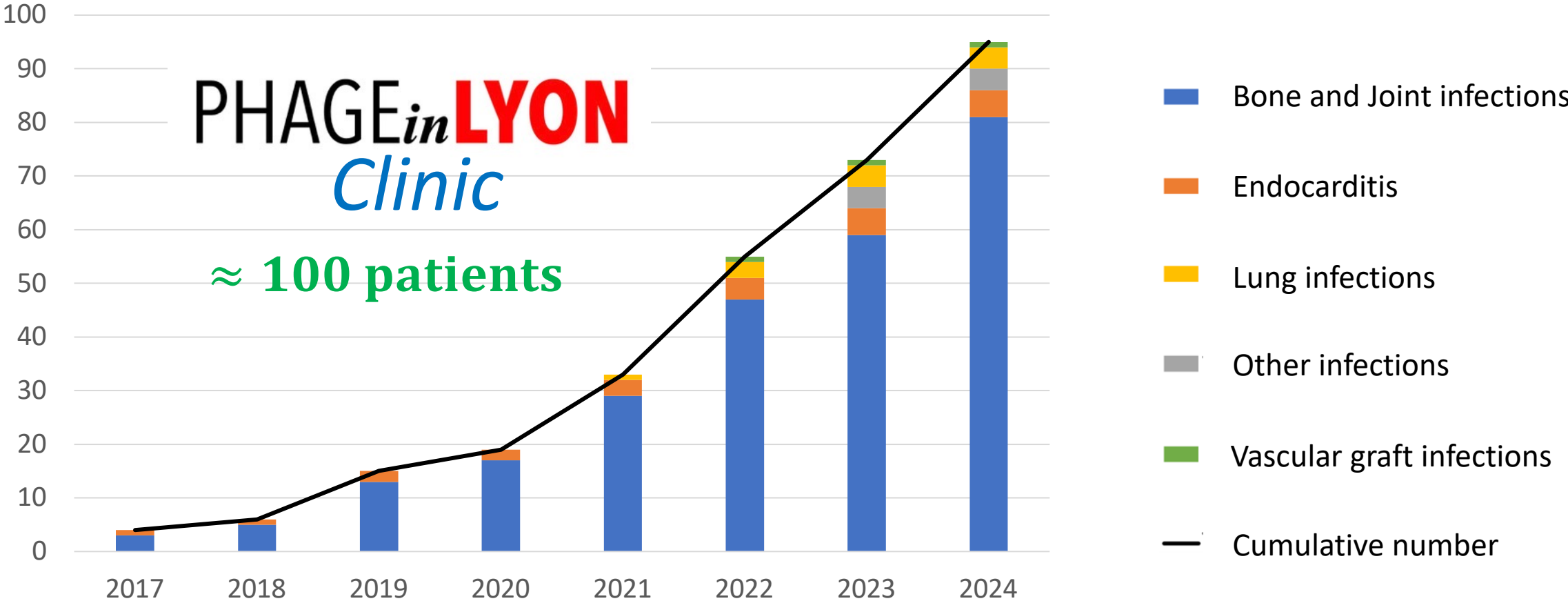


n=135

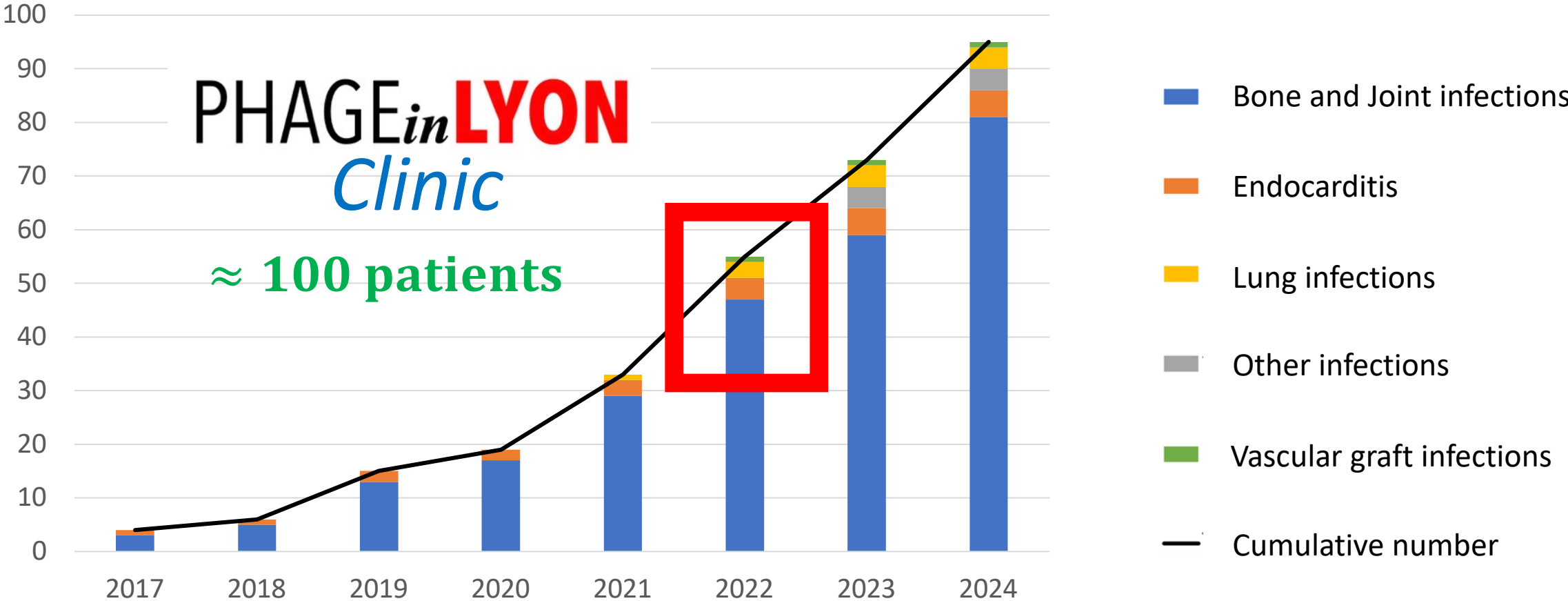
PHAGE *in* **LYON**
Clinic

- IOA
- Infections pulmonaires
- Bactériémies/EI
- Autres

Cumulative number of patients treated with phage therapy





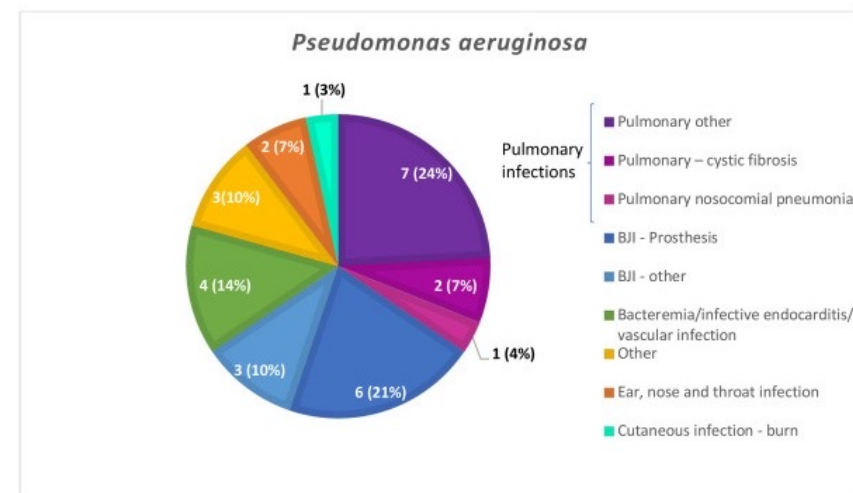
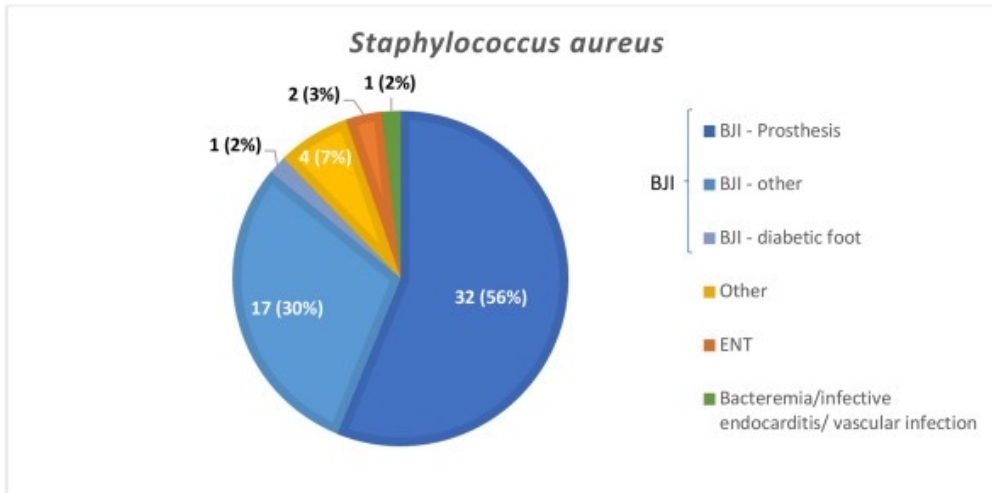
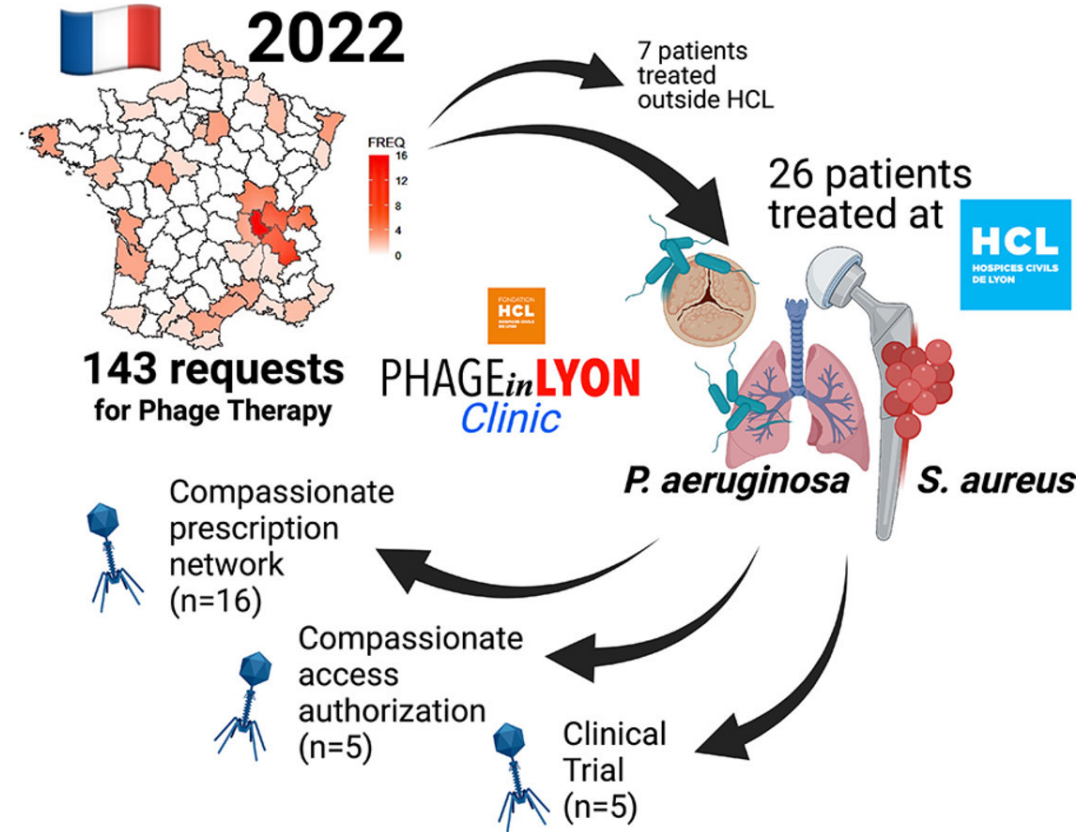
Cumulative number of patients treated with phage therapy



Short Communication

Access to phage therapy at Hospices Civils de Lyon in 2022: Implementation of the PHAGEinLYON Clinic program

Tristan Ferry ^{1 2 3 4 5}  , Myrtille Le Bouar ¹, Thomas Briot ⁶, Tiphaine Roussel-Gaillard ⁷, Thomas Perpoint ^{1 3}, Sandrine Roux ^{1 3}, Florence Ader ^{1 2 3 4}, Florent Valour ^{1 2 3 4}, Behrouz Kassai ^{8 9}, Inesse Boussaha ^{8 9}, Marietou Ndiaye ^{8 9}, Fabien Craighero ¹⁰, Clément Javaux ¹, Sébastien Lustig ¹¹, Cécile Batailler ¹¹, PHAGEinLYON Clinic Study group *



Authorization for early access to medicinal products in France, 2021

Article 78 of the French Social Security Financing Act for 2021 No. 2020-1576 of 14 December 2020

Serious, rare or disabling illness
Lack of appropriate treatment

Treatment cannot be postponed
Treatment presumed to be effective and safe

Request by hospital prescribers

Request by a company

- Presumed positive benefit/risk ratio
- No market access envisaged
- No clinical trials in this indication

- No market access or in another indication
- No clinical trial in this indication
- Clinical trial but the patient cannot be included
- Commitment to submit an early access application

- Highly effective and safe based on the results of clinical data
- Presumed to be innovative, particularly with regards to a clinically relevant comparator

Compassionate Prescription framework
3 years renewable

PP1792
PP1450
...

P. aeruginosa

No reimbursement
Usually free of charge

Compassionate Access Authorization
1 year renewable

PP1815
PP1493

S. aureus

Request on secured web Portal: E-Saturne

Reimbursement

Early Access Authorization
1 year renewable

Reimbursement

Market access

Definitive reimbursement

Clinical case #1 (not published)

54-year-old man

Hemophilia A (substitution)

Hemophilic **arthropathy**

Multiple joint prosthesis

Current smoker

Coronaropathy

Late S. aureus Infection

With Loosening

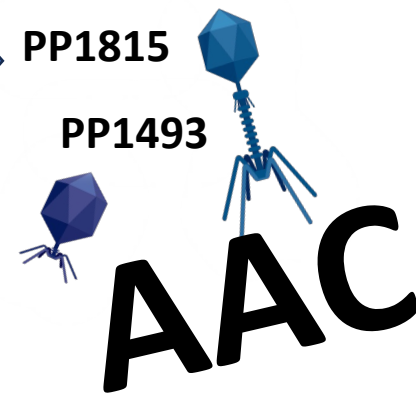
After left elbow prosthesis revision

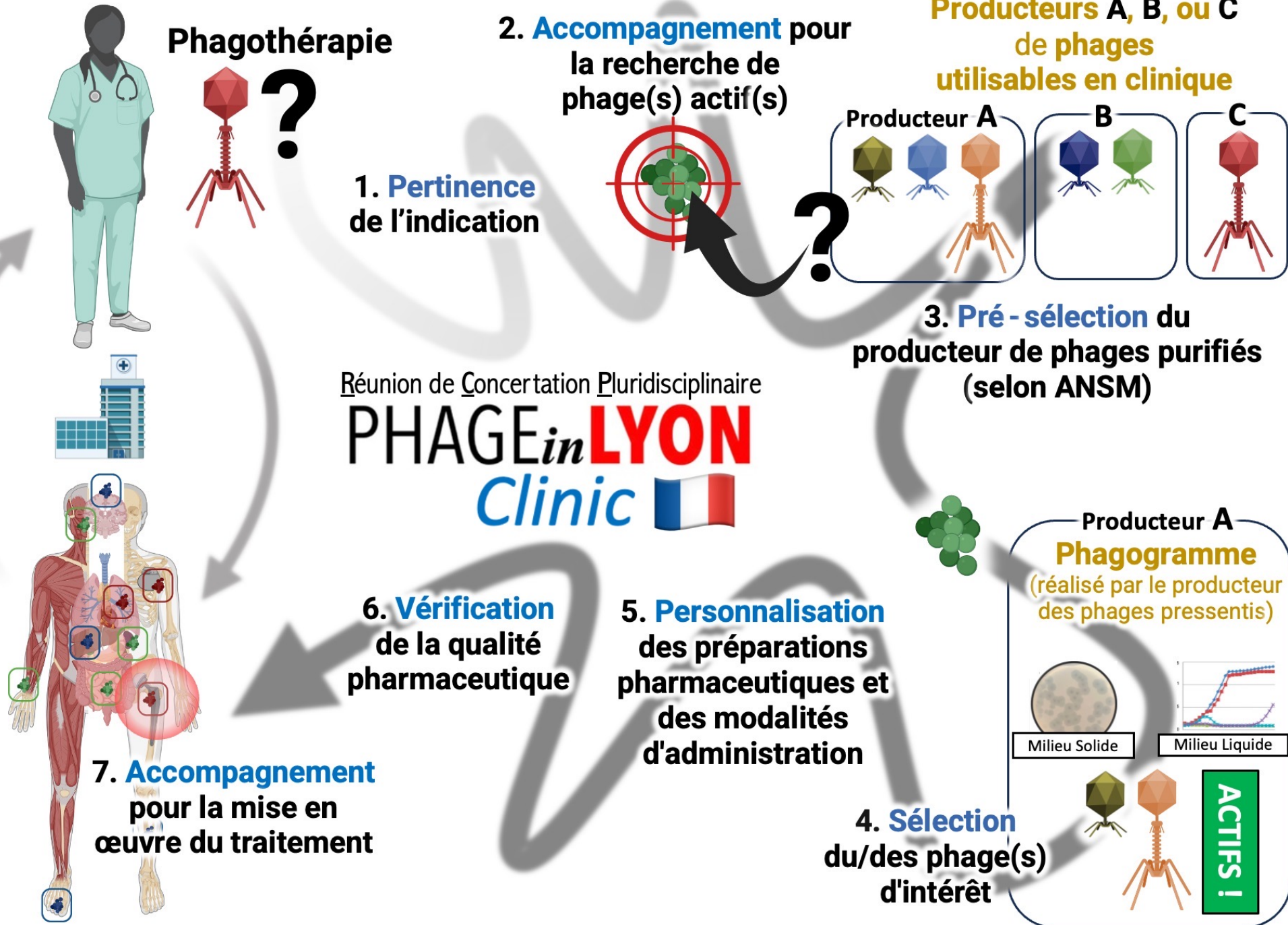


Clinical case #1

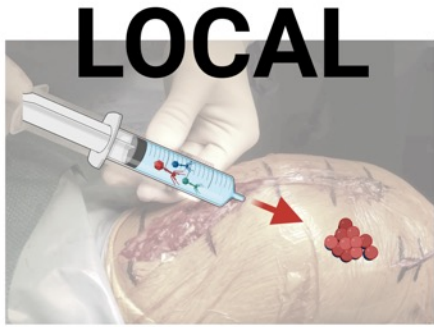
What do you recommend for this patient?

- 1- No surgery, but suppressive ('palliative') ATBx
- 2- Conservative Surgery with DAIR, ATBx during 3 months and then stop
- 3- Conservative Surgery with DAIR, ATBx during 3 months and then suppressive ATBx + BACTERIOPHAGE THERAPY →
- 3- One-stage exchange, with ATBx during 3 months
- 4- Two-stage exchange, , with ATBx during 3 months





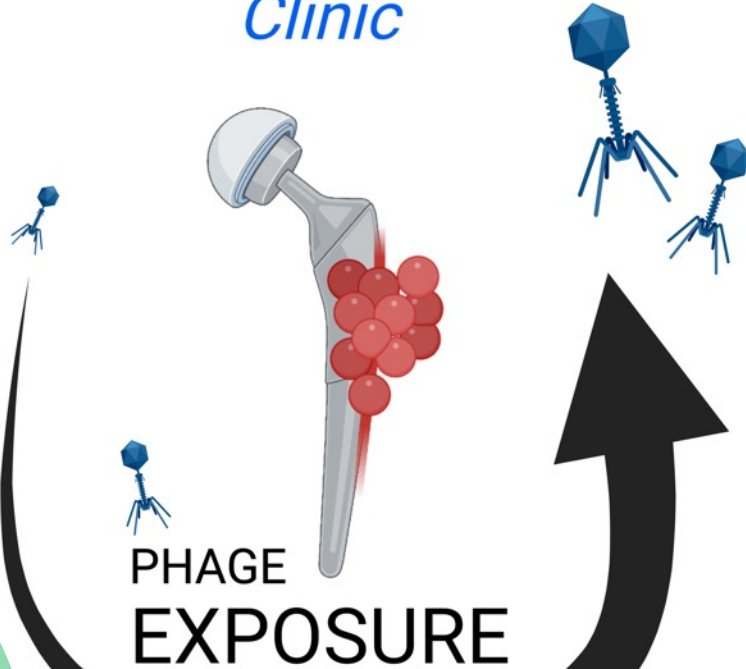
#PhagoDAIR procedure



LOCAL

1 SHOT

PHAGEⁱⁿLYON
Clinic



PHAGE
EXPOSURE



LOCAL

9 SHOTS
3 WEEKS

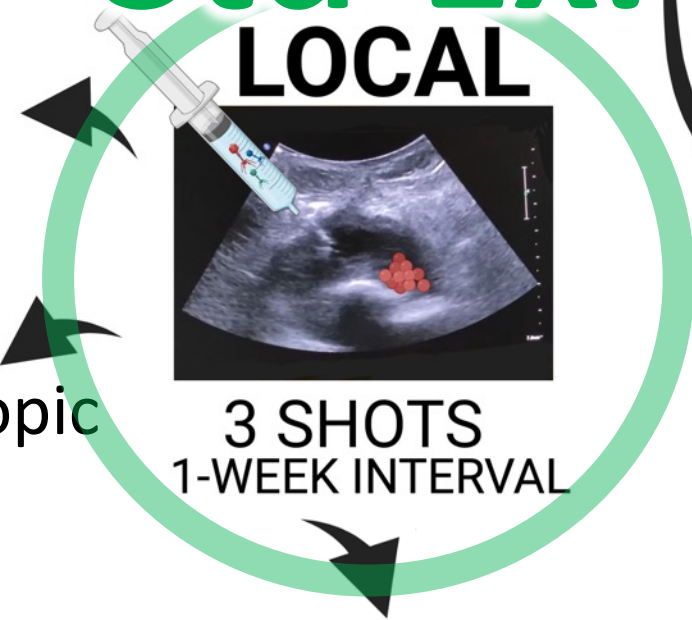
+

IV 1X/DAY
7-21 DAYS

Std-Ex.

Open
DAIR

Arthroscopic
DAIR



LOCAL

3 SHOTS
1-WEEK INTERVAL

Without
Surgery

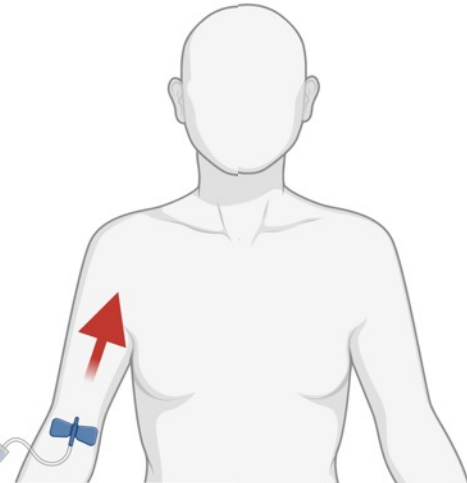


LOCAL

1-3 SHOTS (if possible)
1-WEEK INTERVAL

+

IV
1X/DAY
7 DAYS



Clinical case #1 (not published)

54-year-old man

Hemophilia A (substitution)

Hemophilic **arthropathy**

Multiple joint prosthesis

Current smoker

Coronaropathy

Late S. aureus Infection

With Loosening

After left elbow prosthesis revision

3 weeks after a DAIR



Std
-Ex.



3 local injections
1-week interval

Clinical case #1 (not published)

54-year-old man

Hemophilia A (substitution)

Hemophilic **arthropathy**

Multiple joint prosthesis

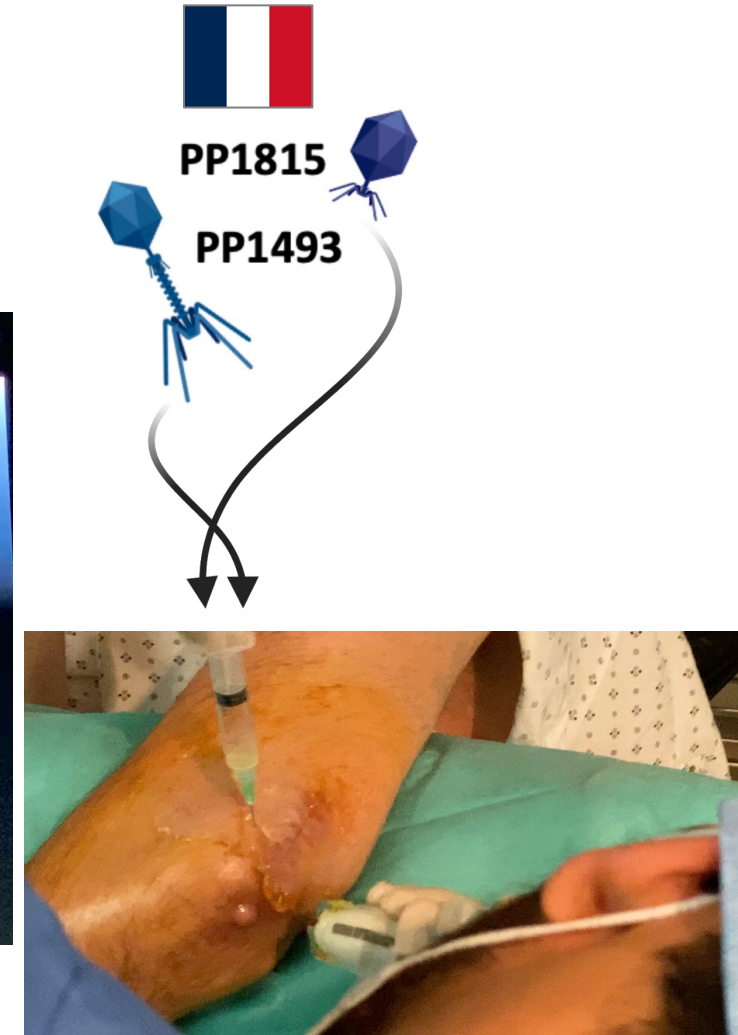
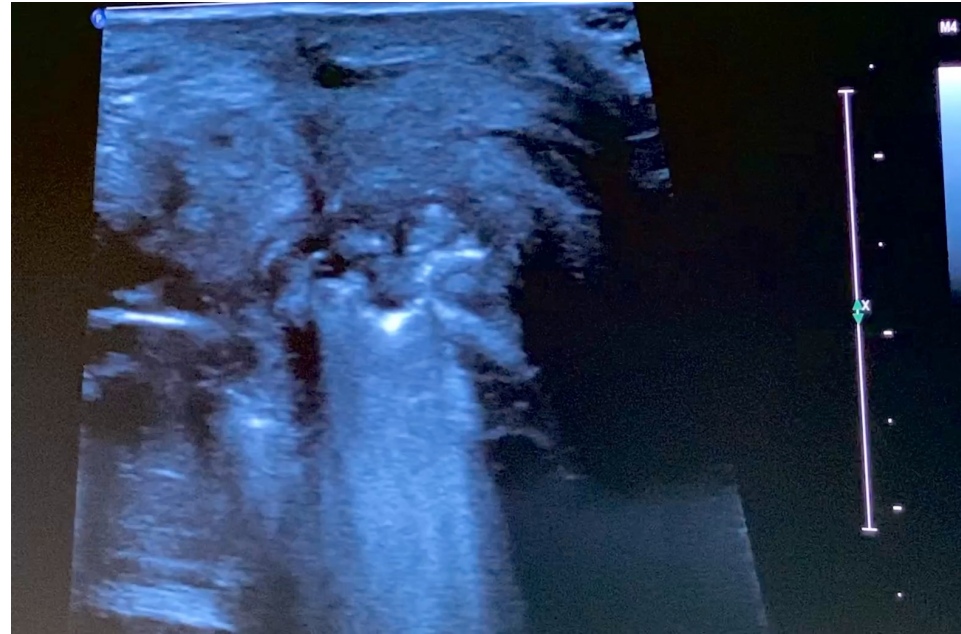
Current smoker

Coronaropathy

Late S. aureus Infection

With Loosening

After left elbow prosthesis revision



Clinical case #1 (not published)

Follow-up at 2 years

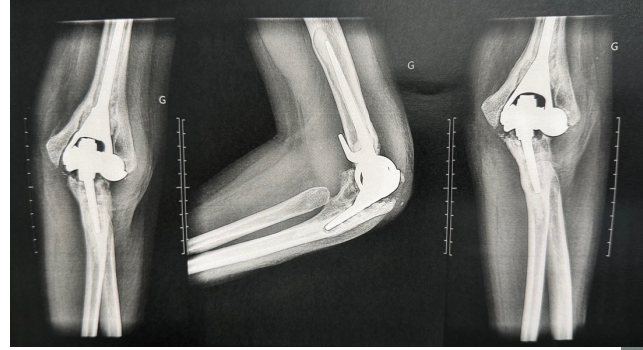
Suppressive cephalexin

Reduction of pain

No worsening of the loosening

Very active

No sign of infection



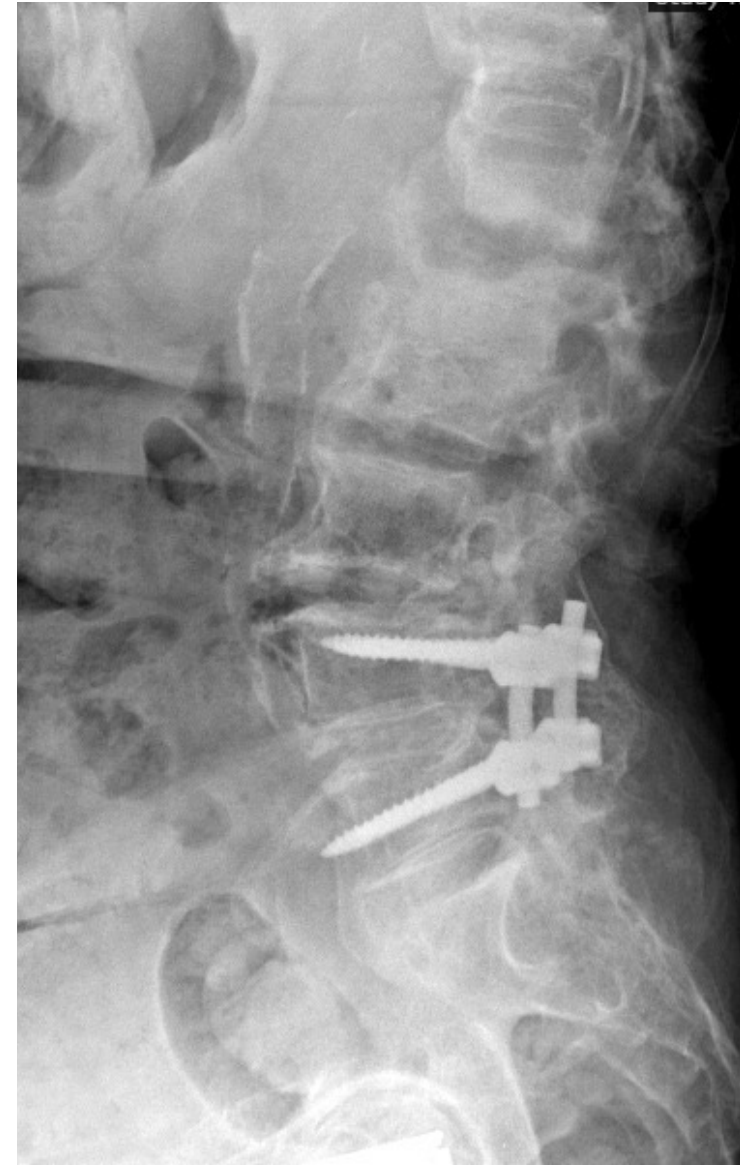
Clinical case #2 (not published)

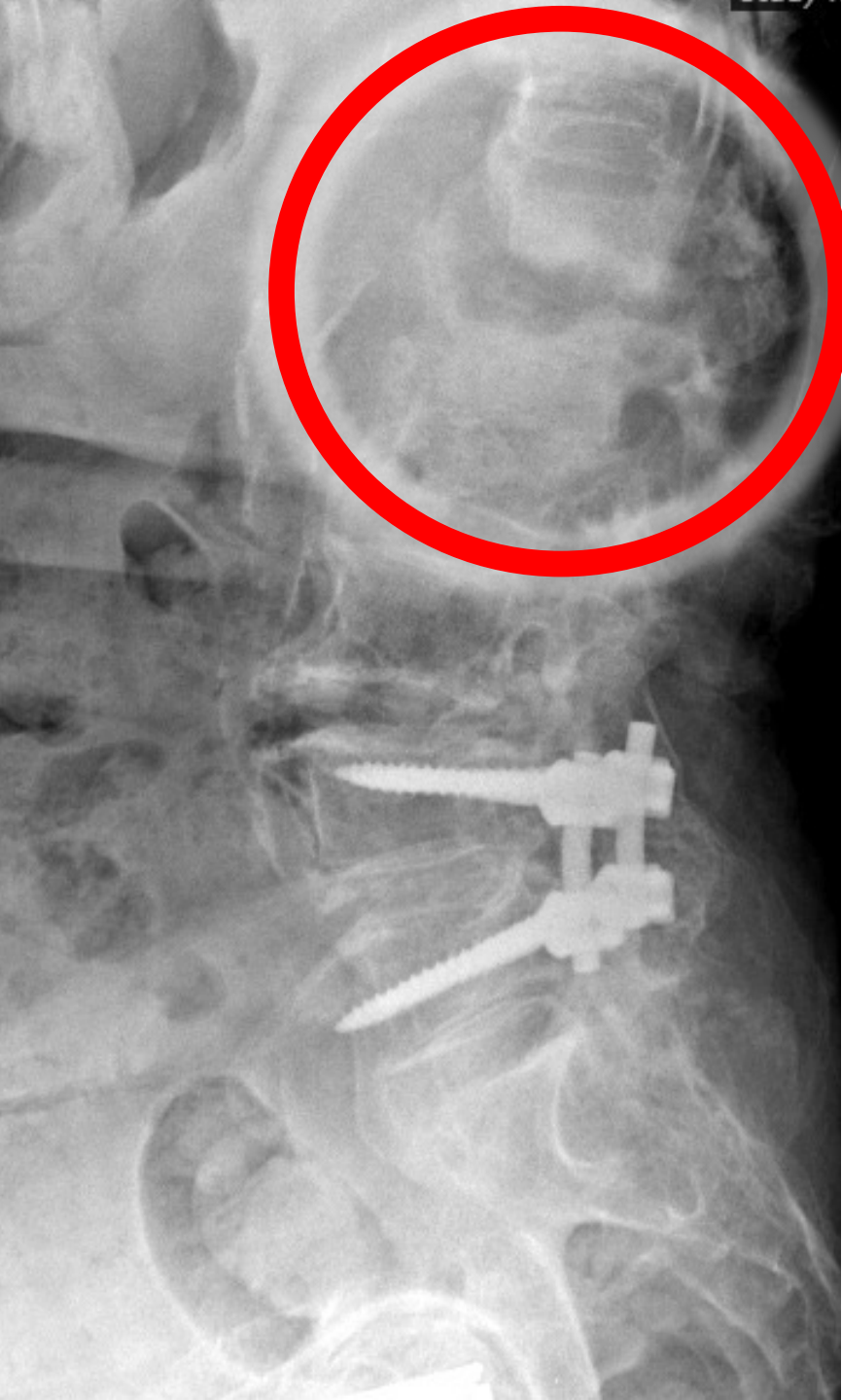
79-year-old woman

Hematogenous spondylodiscitis (native spine)
due to *P. aeruginosa*

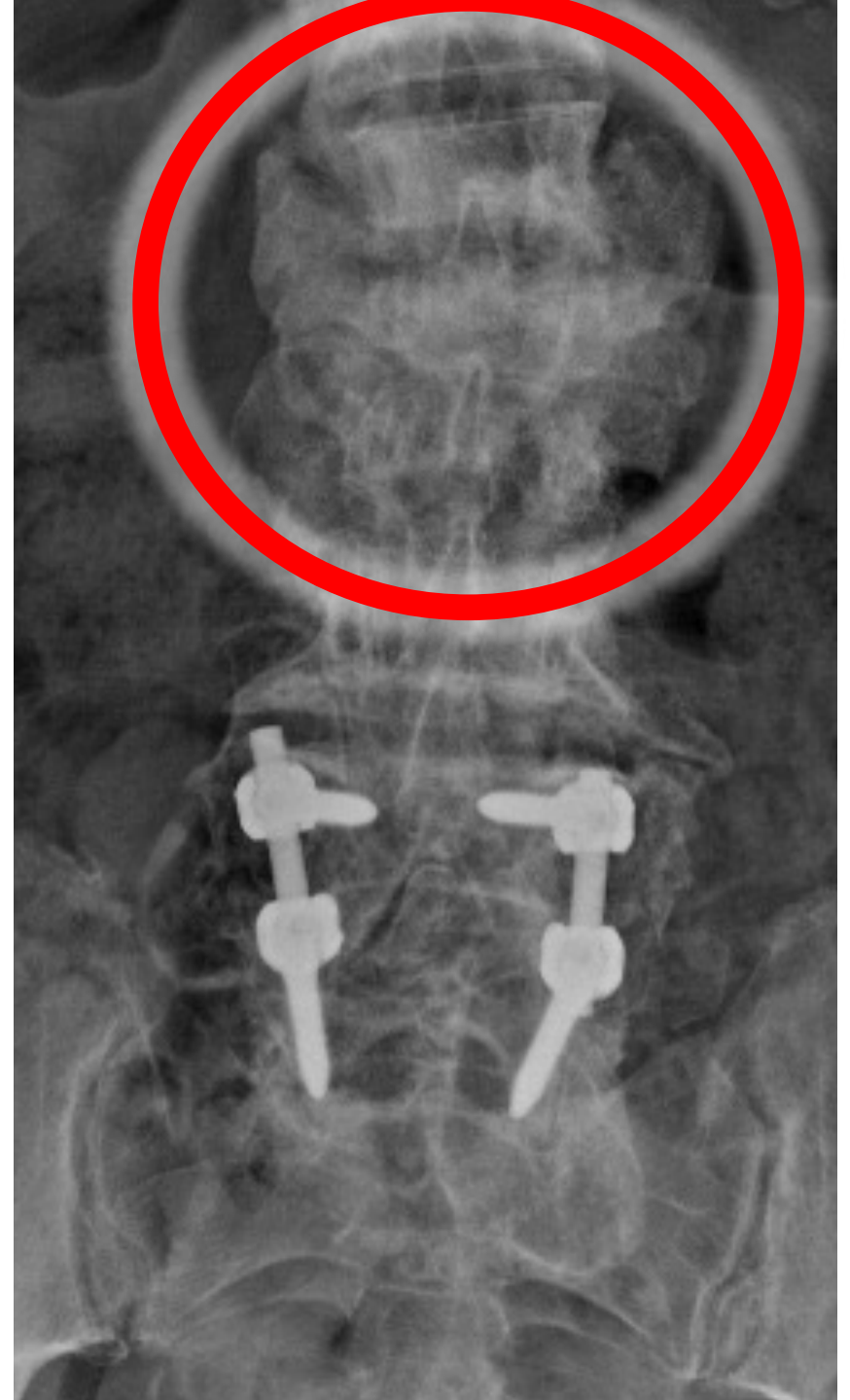
Iterative relapse despite several courses of ATBx
and surgery (debridement)

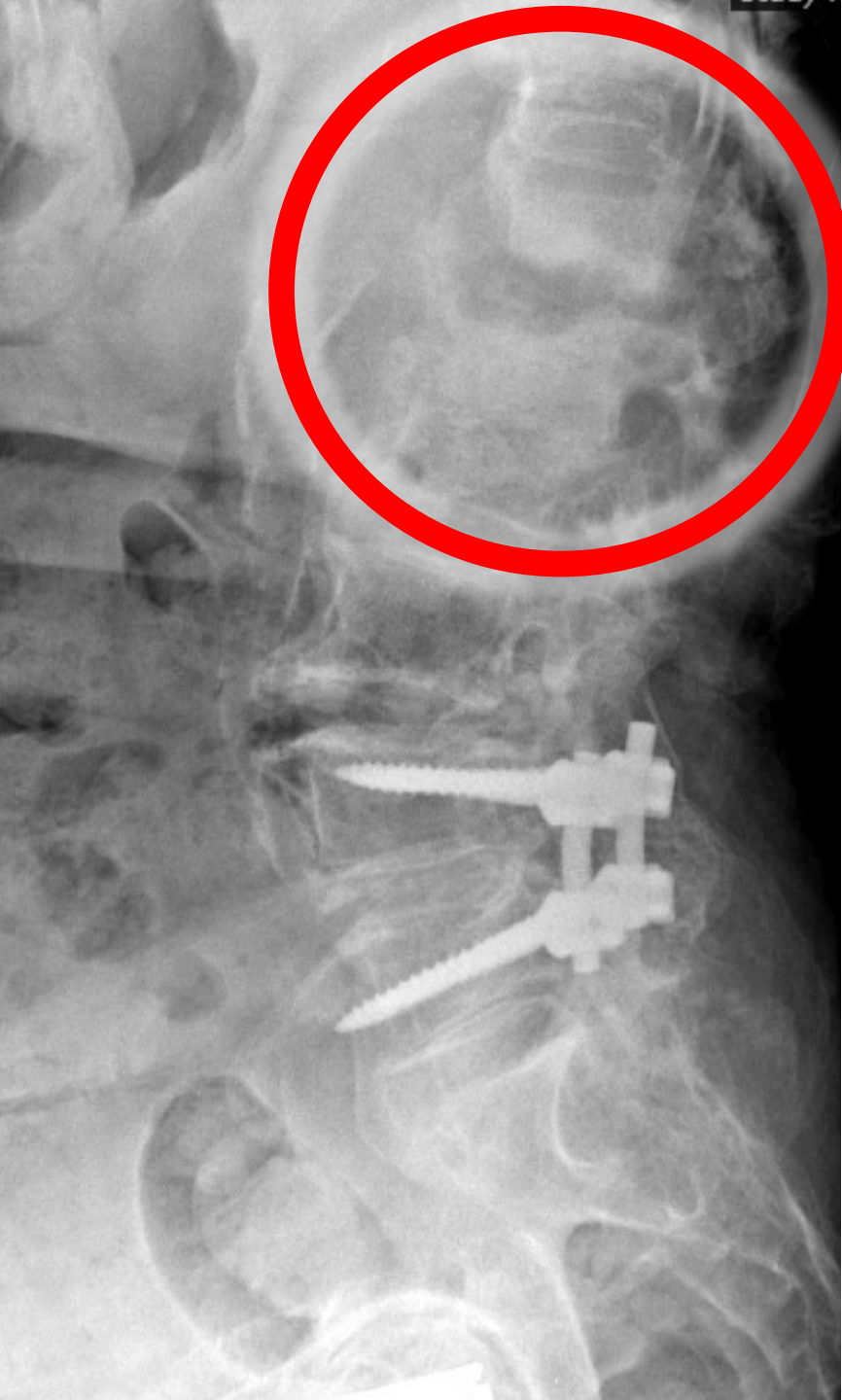
**Septic failure with bone destruction and
indication of arthrodesis**





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Clinic





PHAGEⁱⁿLYON
Clinic



Clinical case #2

What do you recommend for this patient?

Comment participer ?



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Code d'événement

EKKMCH

Activer les réponses par SMS

Clinical case #2

What do you recommend for this patient?

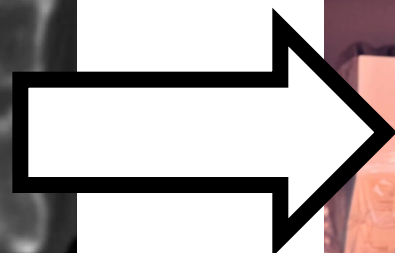
- 1- No surgery, but suppressive ('palliative') ATBx
- 2- New debridement before arthrodesis, ATBx during 3 months and then stop
- 3- New debridement before arthrodesis, ATBx during 3 months and then suppressive antimicrobial therapy
- 4- Arthrodesis, with ATBx during 3 months
- 5- Arthrodesis, with ATBx during 3 months and then suppressive antimicrobial therapy

Clinical case #2

What do you recommend for this patient?

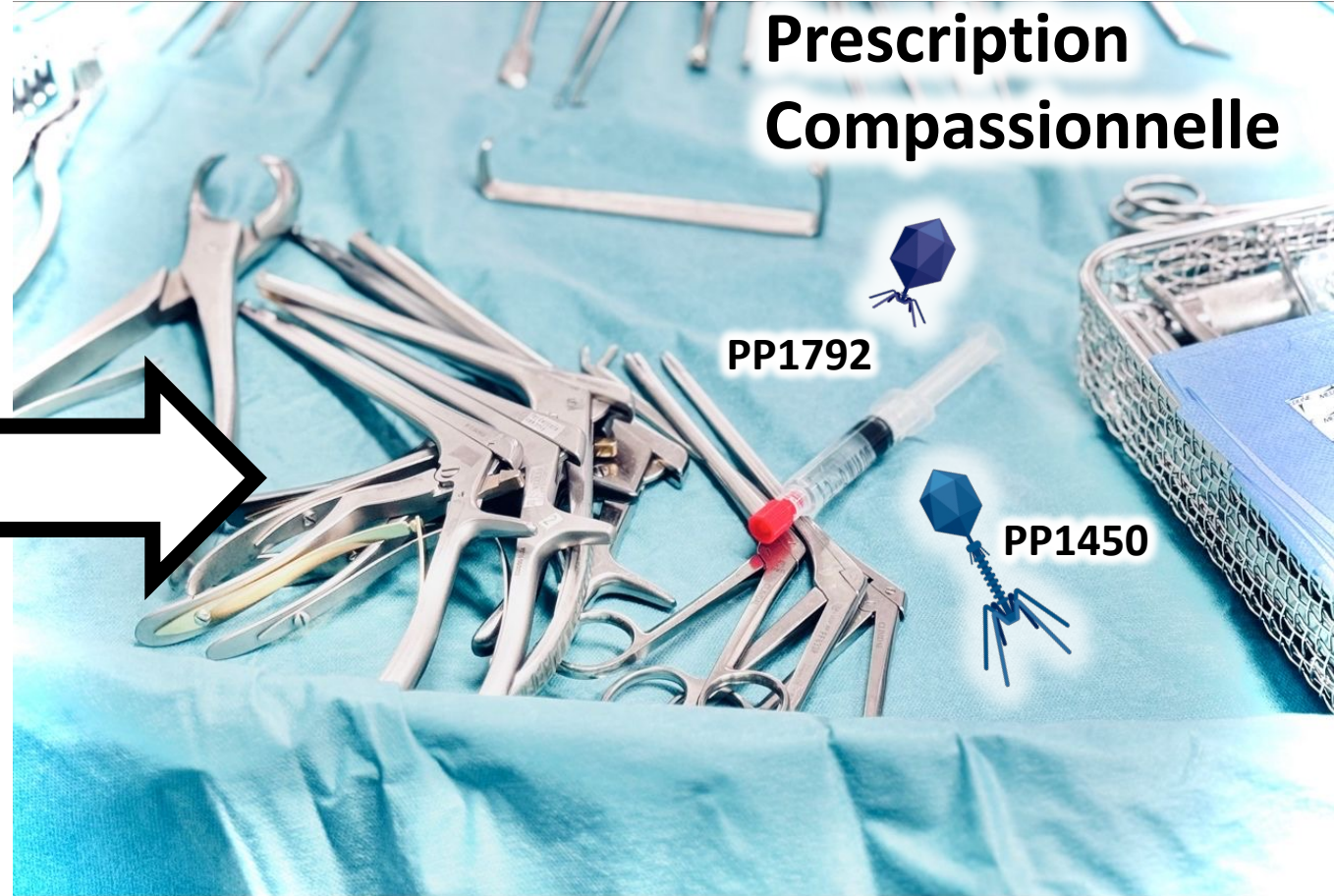
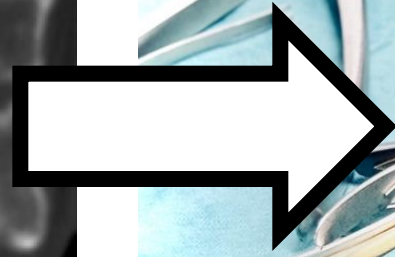
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Clinical case #2 (not published)

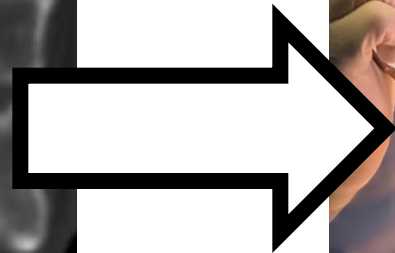


Clinical case #2 (not published)

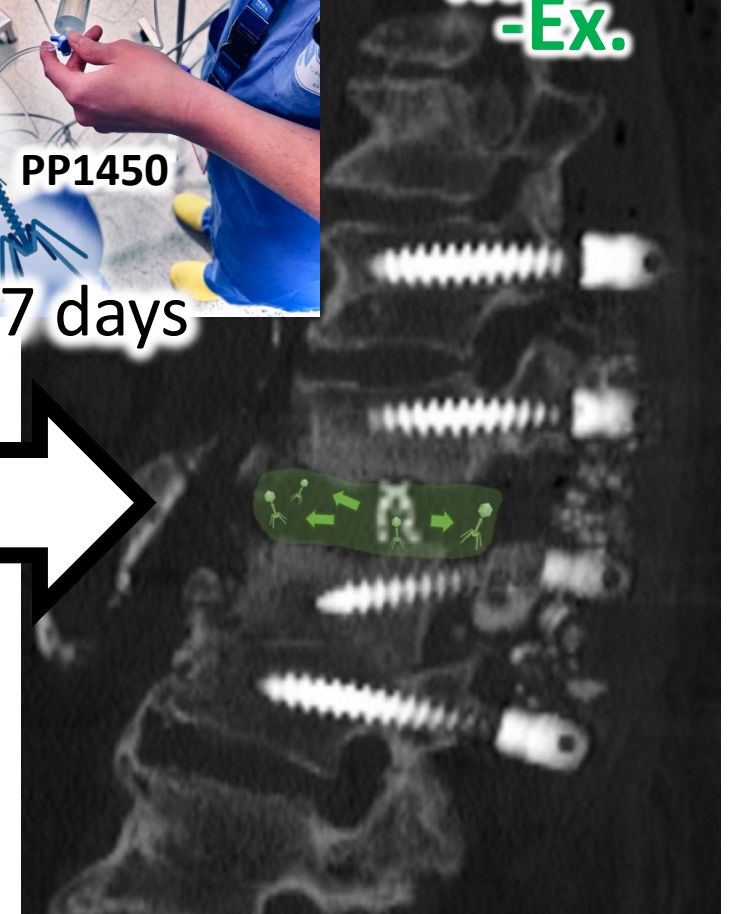
Cadre de
Prescription
Compassionnelle



Clinical case (not published)



Mid-Ex.



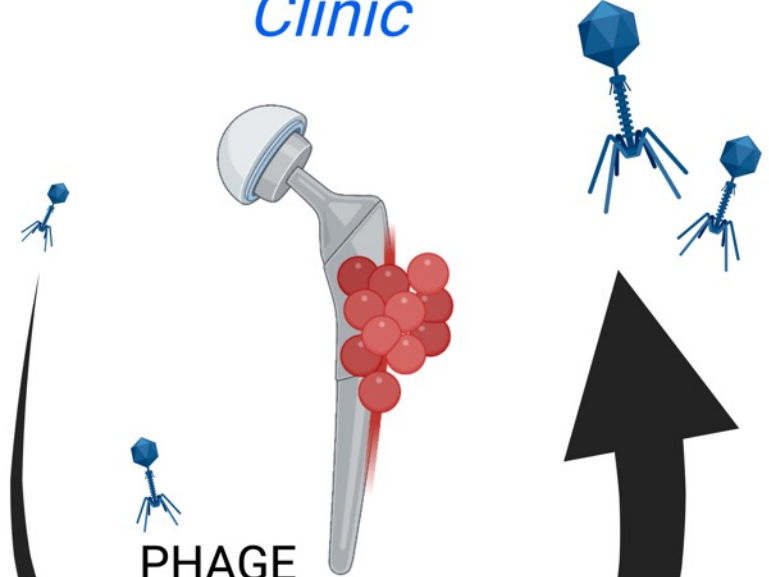
#PhagoDAIR procedure



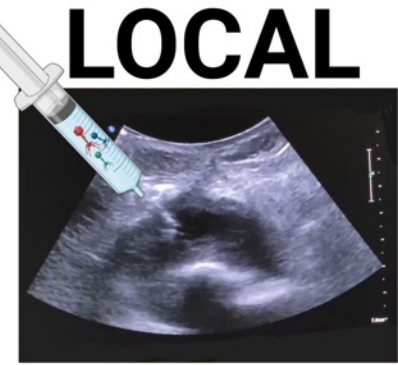
LOCAL

1 SHOT

PHAGEⁱⁿLYON
Clinic



PHAGE EXPOSURE



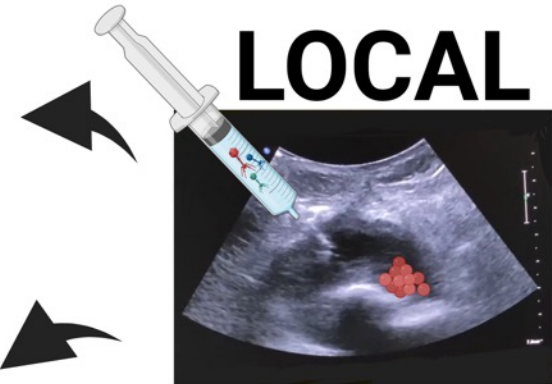
LOCAL

9 SHOTS
3 WEEKS

+

IV 1X/DAY
7-21 DAYS

Open
DAIR



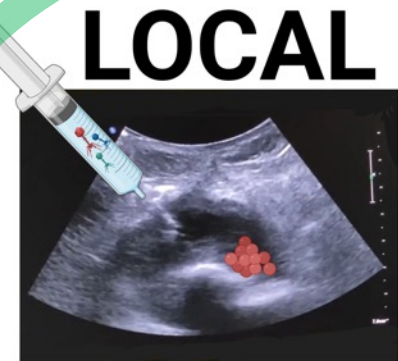
LOCAL

3 SHOTS
1-WEEK INTERVAL

Arthroscopic
DAIR

Without
Surgery

Mid-Ex.

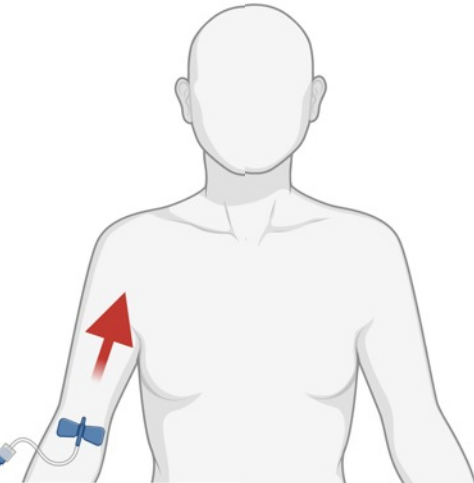


LOCAL

1-3 SHOTS (if possible)
1-WEEK INTERVAL

+

IV
1X/DAY
7 DAYS



Clinical case #2 (not published)

Follow-up at 1 year

No pain

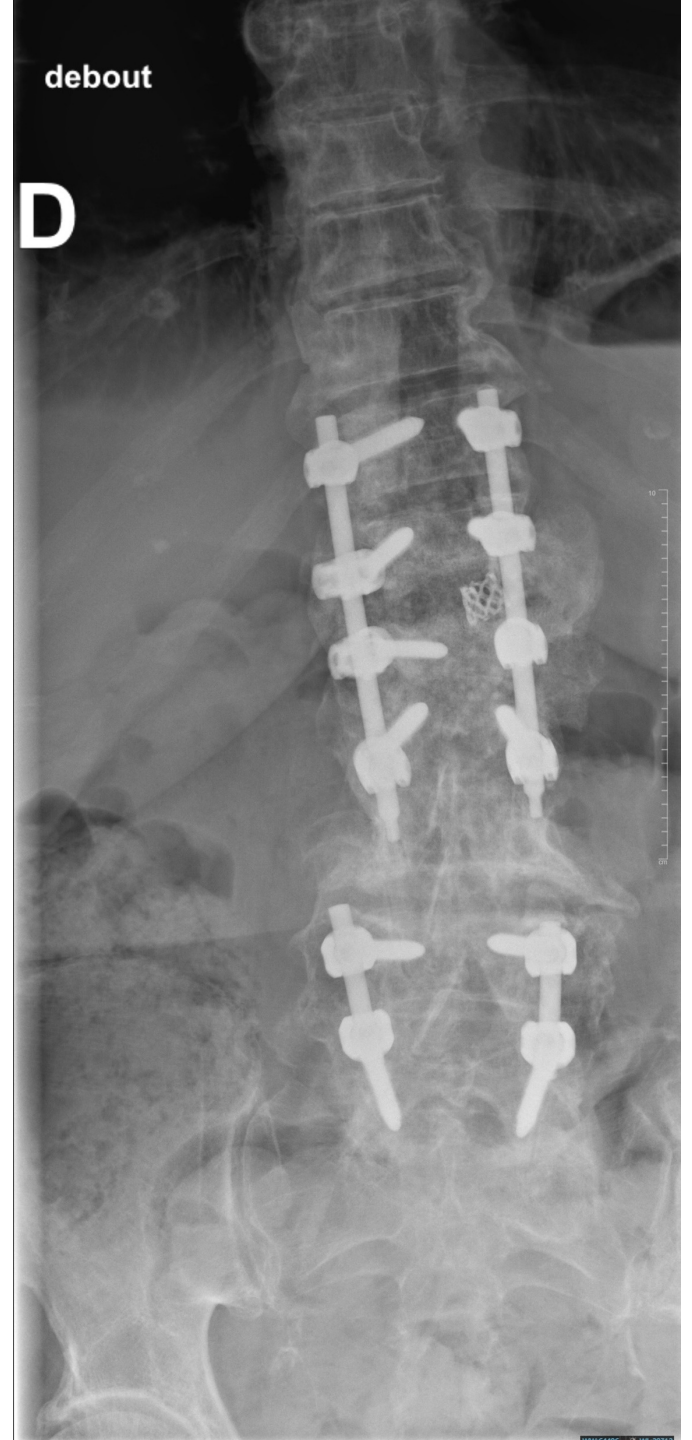
No loosening

Consolidation at CT-SCAN

Suppressive ciprofloxacin

**With Therapy Drug
Monitoring (TDM) and
modeling (TD2M)**

No sign of infection



Clinical case #2 (not published)



Follow-up at 1 year

No pain

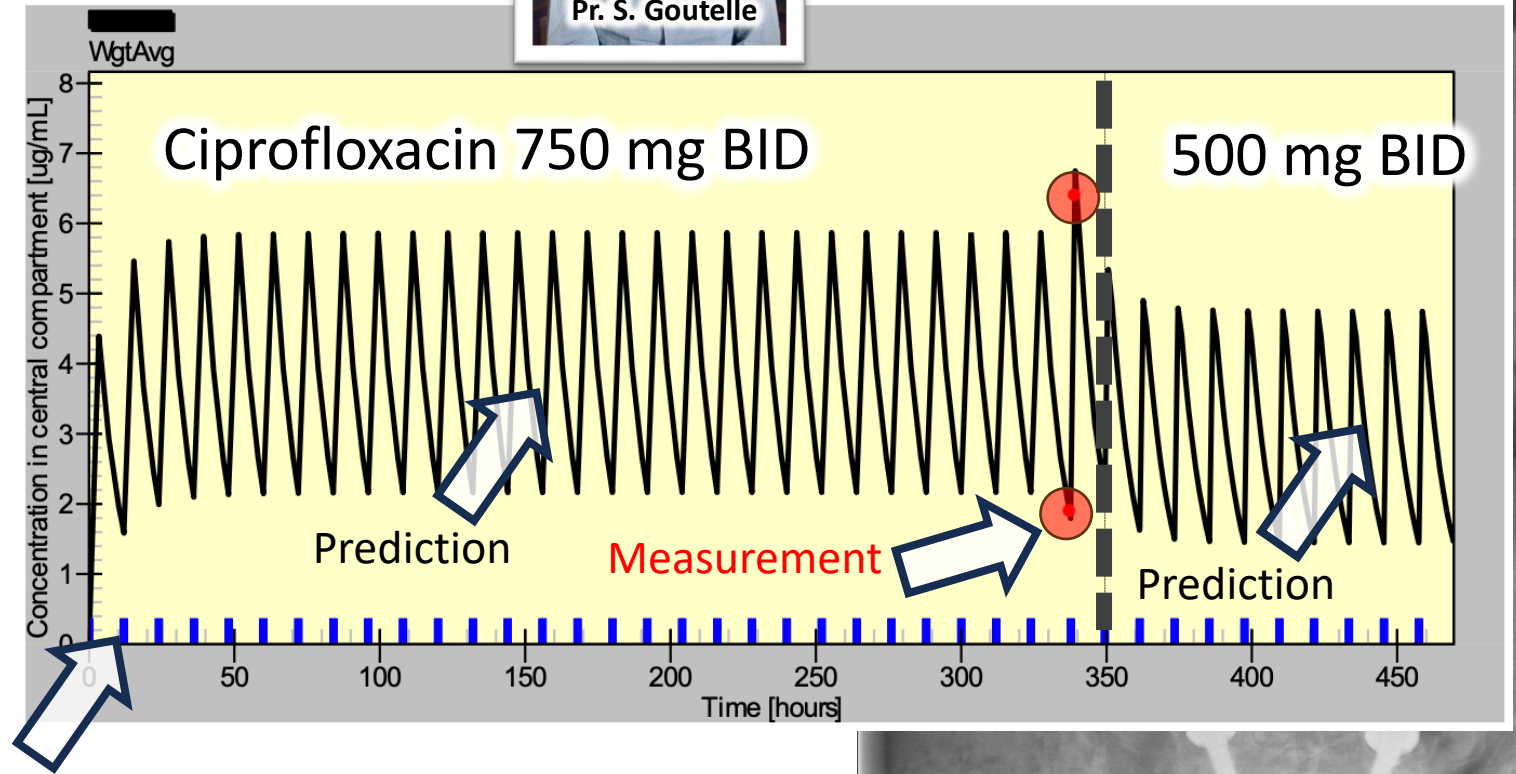
No loosening

Consolidation at CT-SCAN

Suppressive ciprofloxacin

With Therapy Drug Monitoring (TDM) and modeling (TD2M)

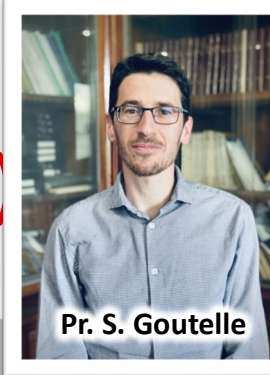
No sign of infection



Pathogen MIC (0.190 mg/L)



Clinical case #2 (not published)



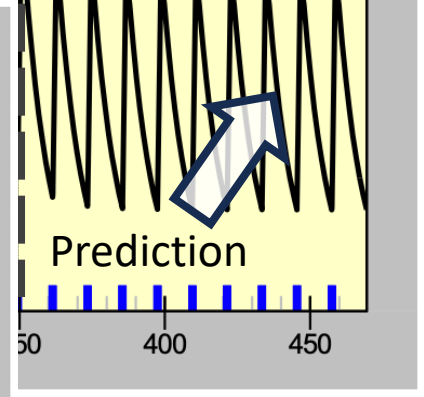
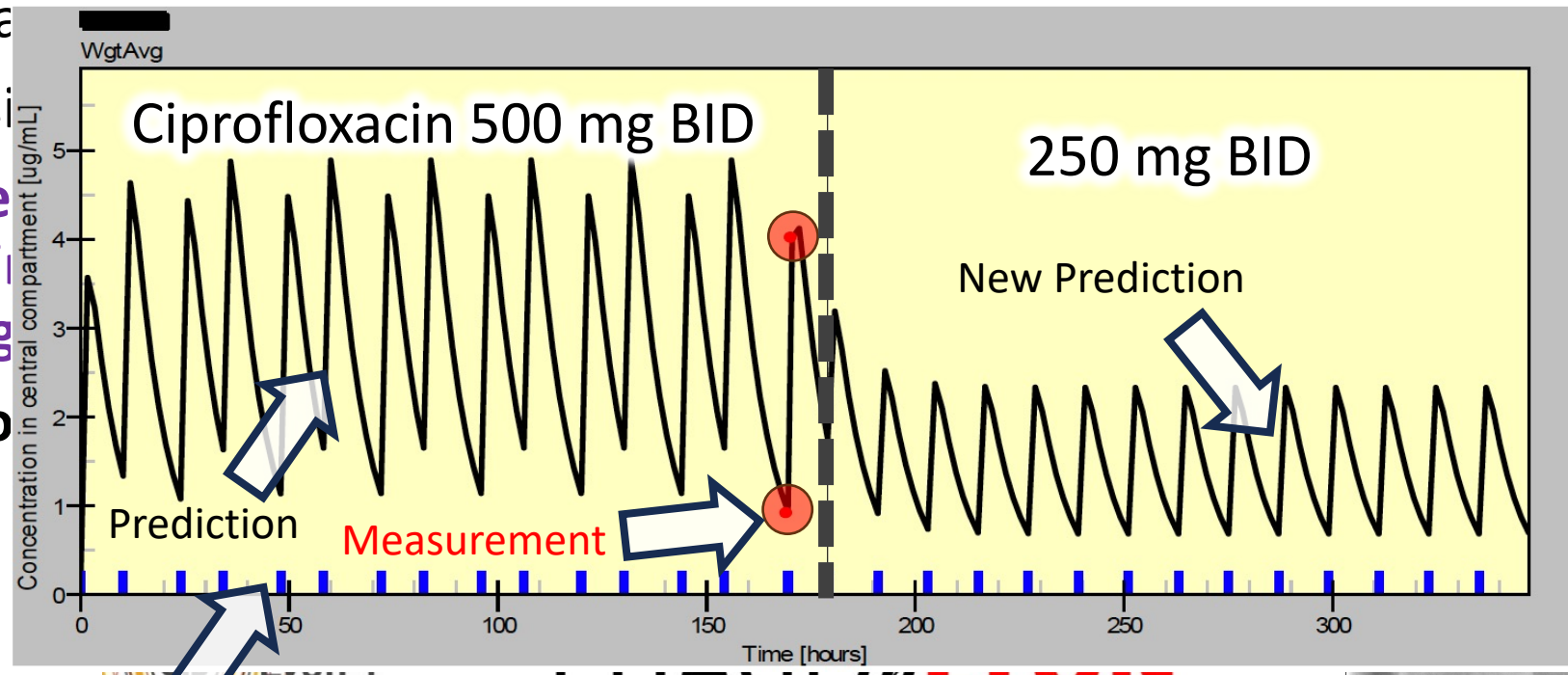
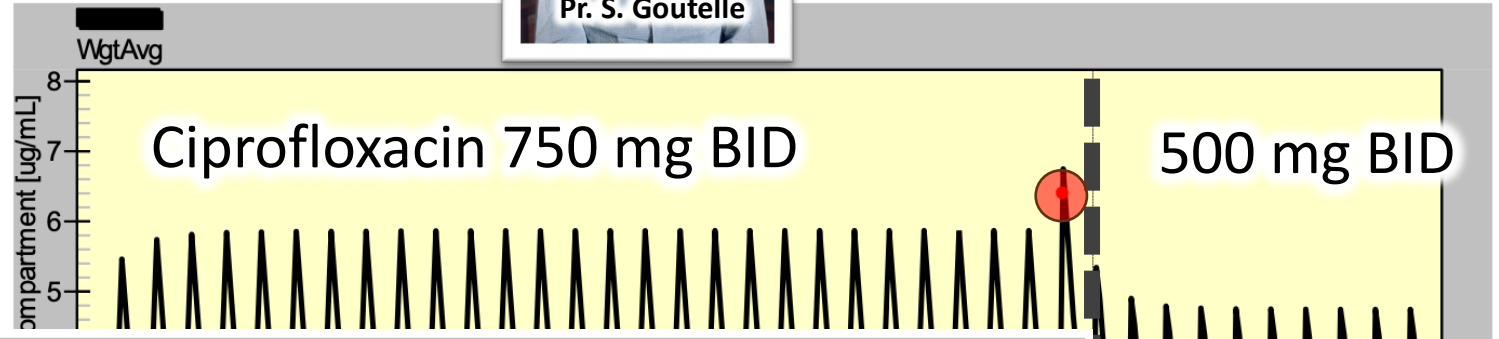
Follow-up at 1 year

- No pain
- No loosening
- Consolidation

Suppression

With The Monitoring modeling

No sign of



Pathogen MIC (0.190 mg/L)

Clinic

Clinical case #2 (not published)

Follow-up at 2 year

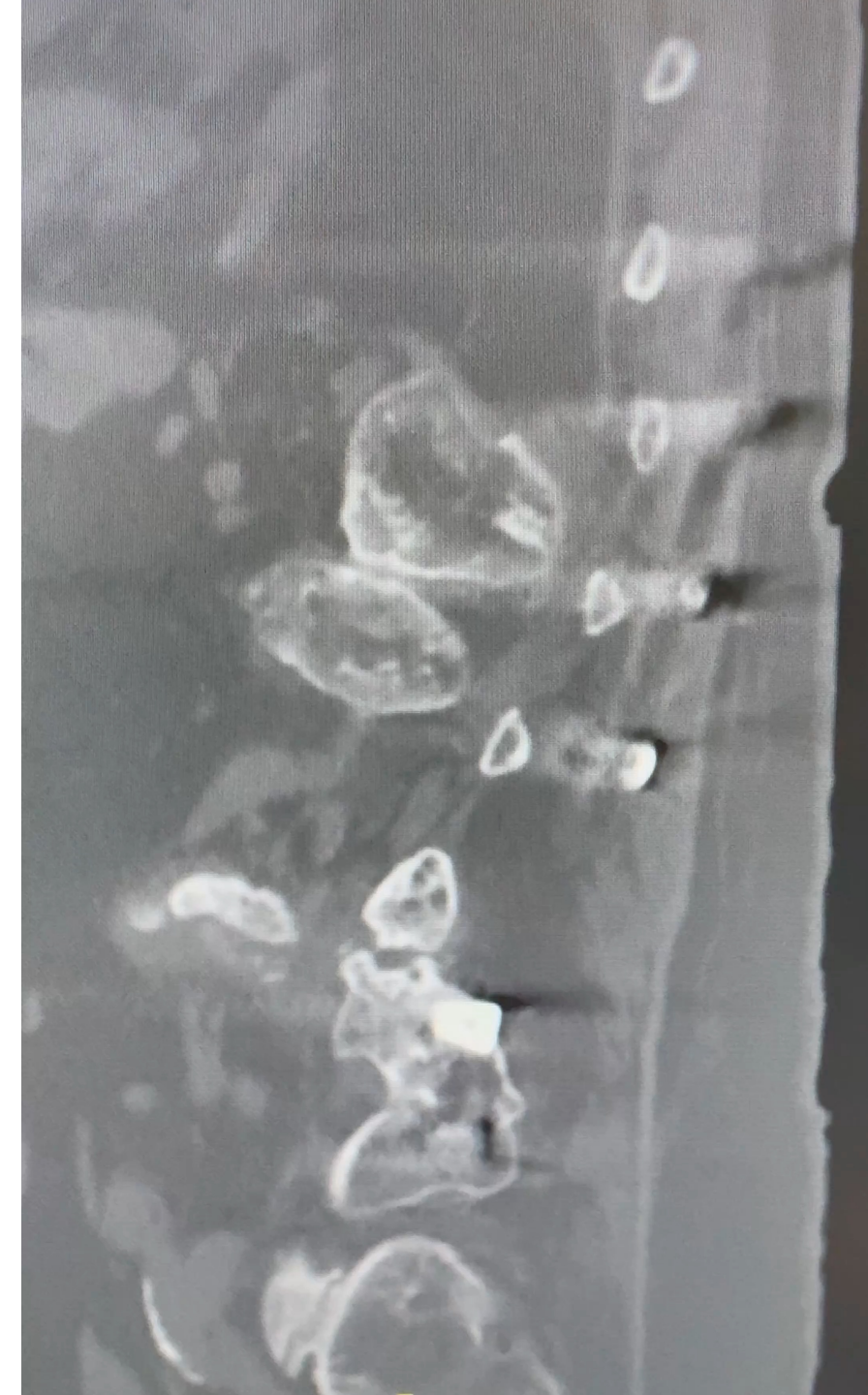
No pain

No loosening

Consolidation at CT-SCAN

STOP ciprofloxacin

No sign of infection



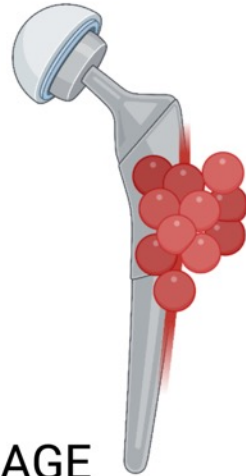
#PhagoDAIR procedure



LOCAL

1 SHOT

PHAGEⁱⁿLYON
Clinic



PHAGE
EXPOSURE



LOCAL

9 SHOTS
3 WEEKS

+

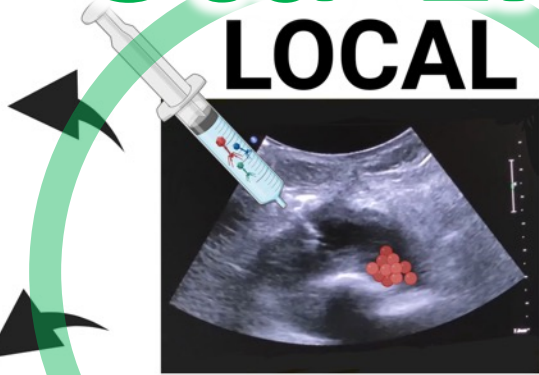
IV 1X/DAY
7-21 DAYS

Max-Ex.

Std-Ex.

Open
DAIR

Arthroscopic
DAIR

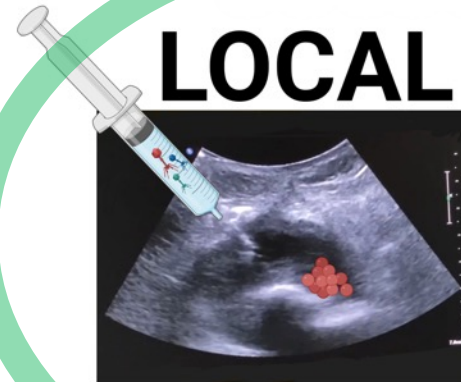


LOCAL

3 SHOTS
1-WEEK INTERVAL

Without
Surgery

Mid-Ex.

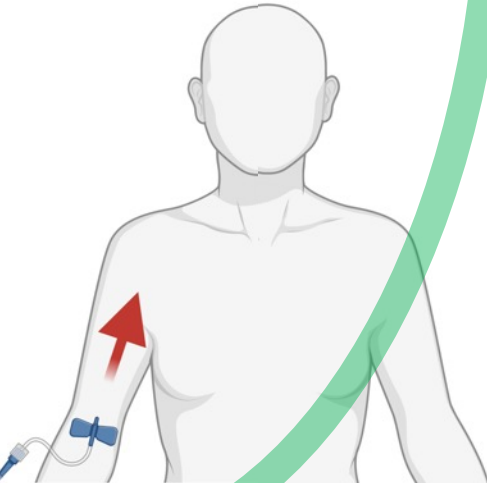


LOCAL

3 SHOTS
1-WEEK INTERVAL

+

IV
1X/DAY
7 DAYS



You are thinking about one of your patient who could be a candidate for phage therapy?

Complex BJI
Online international multidisciplinary meetings each Monday

Qualifiable for

- Compassionate use?
- Clinical trial?



HCR.REFERENCE-IOA@chu-lyon.fr

You are thinking about one of your patient who could be a candidate for phage therapy?

OUTSIDE COMPLEX BJI

Complex

- Lung infections
- Endocarditis
- Implant-associated infections

PHAGEⁱⁿLYON
Clinic



Secured institutional website



demande phagothérapie hcl



Images

Videos

News

Books

Maps

Flights

Finance

About 1,570 results (0.40 seconds)



Hospices Civils de Lyon

<https://www.chu-lyon.fr> › phagothe... · [Translate this page](#) ⋮

Phagothérapie (Bactériophage) | Fiche santé HCL

Jun 27, 2023 — Vous souhaitez **demander** un avis pour un éventuel traitement par bactériophages. Ce traitement exceptionnel est exclusivement envisageable dans ...



GCS Sara

<https://myhcl.sante-ra.fr> › Default · [Translate this page](#) ⋮

Demande de traitement par bactériophages / phagothérapie

Demande de traitement par bactériophages / **phagothérapie** - Hôpital de la Croix Rousse ...

Copyright ©HCL 2023 - Tous droits réservés | 5.9.0.1. {1}. ##LOC[OK]##.

Demande de traitement par bactériophages / phagothérapie - Hôpital de la Croix Rousse

Vous souhaitez demander un avis pour un éventuel traitement par bactériophages.

Ce traitement exceptionnel est exclusivement envisageable dans certaines situations précises où le pronostic fonctionnel ou vital est engagé.

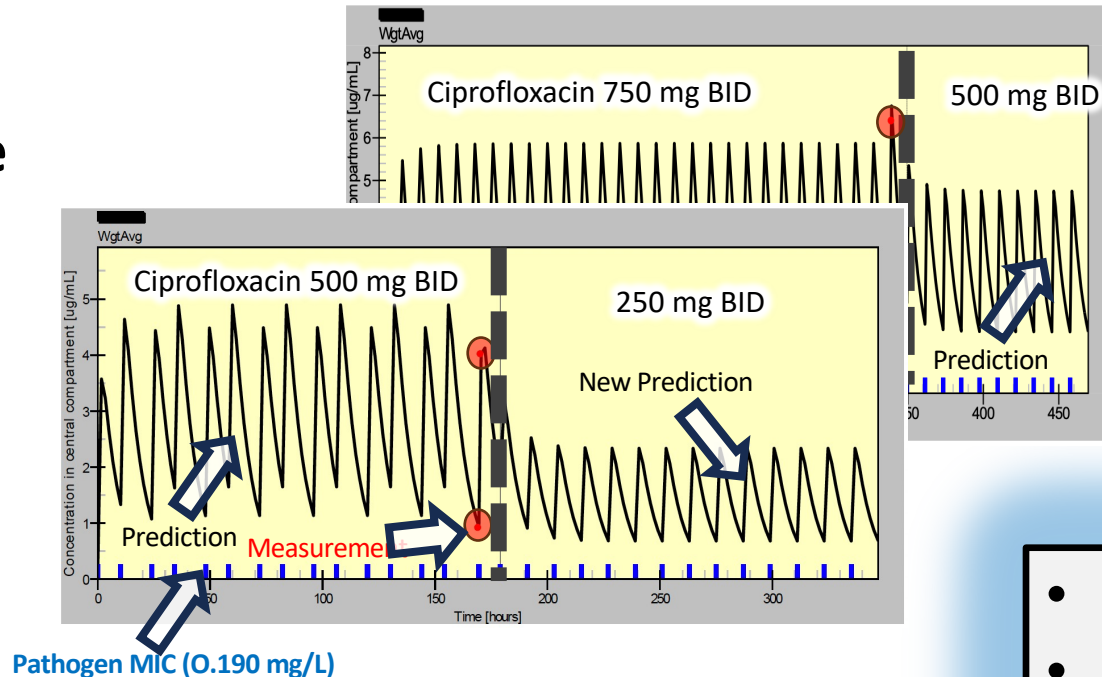
Certains phages peuvent être à disposition, mais ils restent rares et ils ne couvrent malheureusement pas toutes les situations cliniques.

Merci de répondre de façon la plus précise possible aux questions posées dans les pages suivantes et de joindre les documents demandés.

Adaptation posologique – modélisation PK?

Modélisation possible sur demande pour :

- Amoxicilline
- Ciprofloxacine
- Lévofloxacine
- Daptomycine
- Dalbavancine
- Ceftazidime
- Ceftriaxone
- Ertapénème
- Teicoplanine



- CMI
- 2 [C] mesurées (pic et résiduel)
- idéalement 3 pour la voie SC

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Postgraduate Course Program

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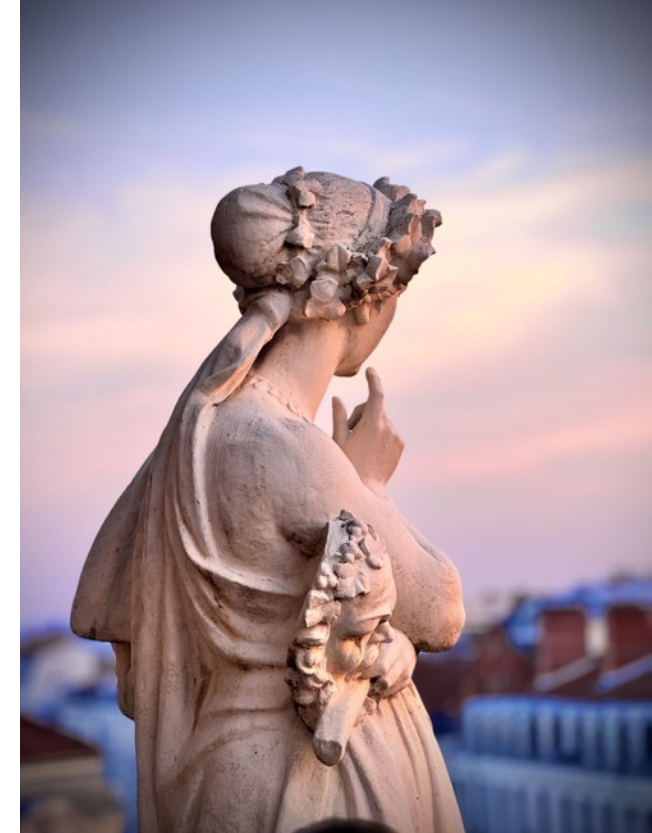
Lyon, France

12 – 13 November 2024



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NEXT ESCMID COURSE

Postgraduate course Programme

Bacteriophage therapy and phage-derived proteins: Dual strategies against antimicrobial resistance and for diagnostic innovation



Tbilisi, Georgia
11 – 13 May 2026



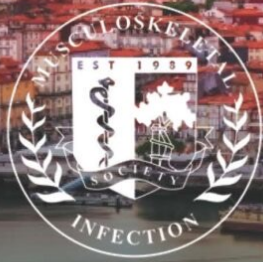
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Lyon BJI Study group



Coordinator: Tristan Ferry

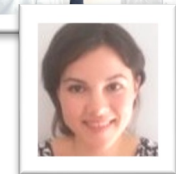
Infectious Diseases Specialists: Tristan Ferry, Florent Valour, Claire Triffault-Filit, Agathe Becker, Anne Conrad, Evelyne Braun, Florence Ader, Isabelle Eberl, Joanna-Isabelle Kurban Bessa Lippman, Lorena Van-Den-Bogaart, Marie Simon, Olivier Bahuau, Pierre Chauvelot, Sandrine Roux, Sarah Soueges, Sophie Landre, Thomas Perpoint, Clément Javaux, Marie Wan. **Surgeons:** Cécile Batailler, Sébastien Lustig, Elvire Servien, Gerald Delfosse, Guillaume Mesnard, Jean Baltzer, Julien Erard, Nicolas Cance, Sébastien Martres, Franck Trouillet, Stanislas Gunst, Alexandre Couraudon, Anthony Viste, Fabien Ewald, Jean-Luc Besse, Matthieu Cotte, Michel Fessy, Philippe Chaudier, Thomas Cuinet, Vianney Derreveaux, Antoine Bertani, Antoine Colas, Frédéric Rongieras, Jean-Baptiste Masson, Léonard Vézole, Maxime Rarchaert, Vincent Pibarot, Aram Gazarian, Arnaud Walch, Christophe Gaillard, Gaetan Vanpouille, Louis Ducharne, Lyliane Ly, Nael Ben-Hadid, Selma Lahlali, Thibault Druel, Victor Rutka, Alain-Ali Mojallal, Abdulrahman Hashim, Guillaume Henry, Hélène Person, Mathilde Lherm. **Anesthesiologists:** Audrey Chevreau-Ciliberti, Caroline Macabéo, Frédéric Aubrun, Kaissar Rouhana, Mikhail Dziadzko. **Microbiologists:** Céline Dupieux, Tiphaine Roussel-Gaillard, Laetitia Beraud, Matthieu Curtil-Dit-Galin, Ani Horikian, Anne-Lise Maucotel, Camille Kolenda, Jean-Philippe Rasigade. **Pathologist:** Alexis Trecourt. **Imaging:** David Gicquel, Grégoire Vervust, Isabelle Morelec, Jean-Baptiste Pialat, Joris Lavigne, Nicolas Stacoffe. **Pharmacists & PK/PD specialists:** Agnes Henry, Noémie Vieux, Romain Garreau, Thomas Briot, Sylvain Goutelle. **Clinical research assistant and database manager:** Johanna Boulant.

PHAGEⁱⁿLYON Clinic

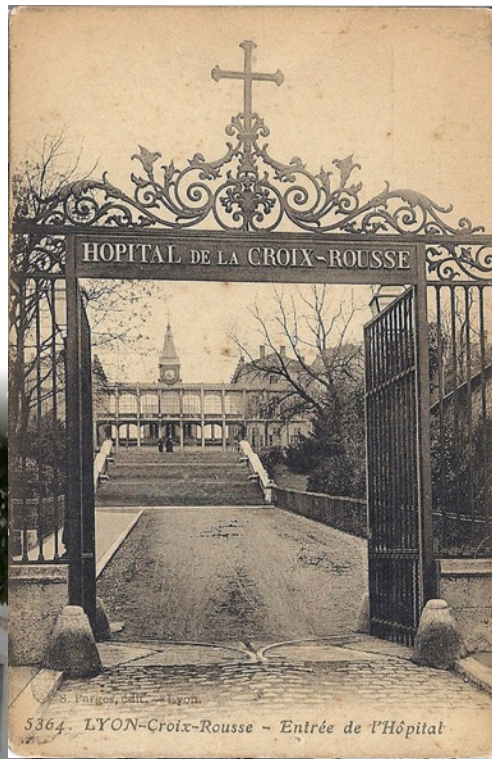
Acknowledgments to French ministry DGOS, ANSM, Phaxiam, QAMH, Inselspital, IPTC and BiomX

Coordinator: Tristan Ferry

Tristan Ferry, Myrtille Le Bouar, Thomas Briot, Tiphaine Roussel-Gaillard, Ani Horikian, Noémie Vieux, Thomas Perpoint, Sandrine Roux, Florent Valour, Clément Javaux, Marie Wan, Anne Conrad, Agathe Becker, Claire Triffault-Fillit, Marie Simon, Evelyne Braun, Lorena Van der Bogaart, Pierre Chauvelot, Olivier Bahuau, Sophie Landre, Sarah Soueges, Isabelle Eberl, Karine Dallosto, Johanna Boulant, Nathalie Marrocco, Florence Ader, Sébastien Lustig, Cécile Batailler, Axel Schmidt, Fabien Craighero, Andréa Fleury, Ali El-Ameen, Arnaud Schleeff, Jade Mialhes, Anne Fustier, Paul-Henri Himpens, Loïc Bousset, Marielle Buisson, Inesse Boussaha, Berhouz Kassai.



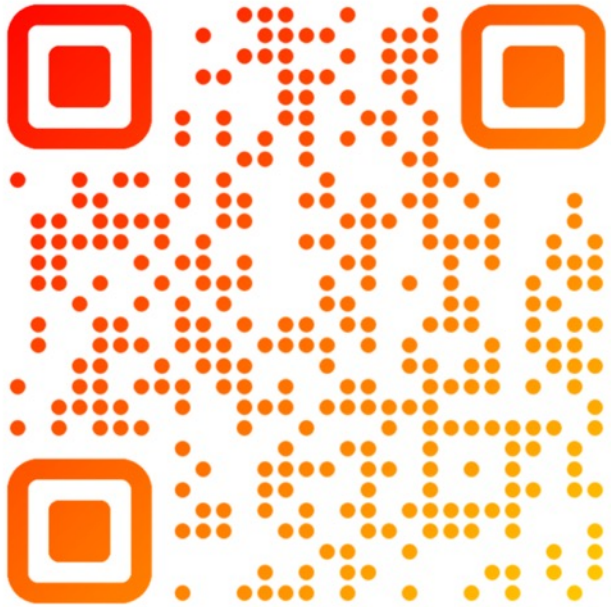
Croix-Rousse Hospital



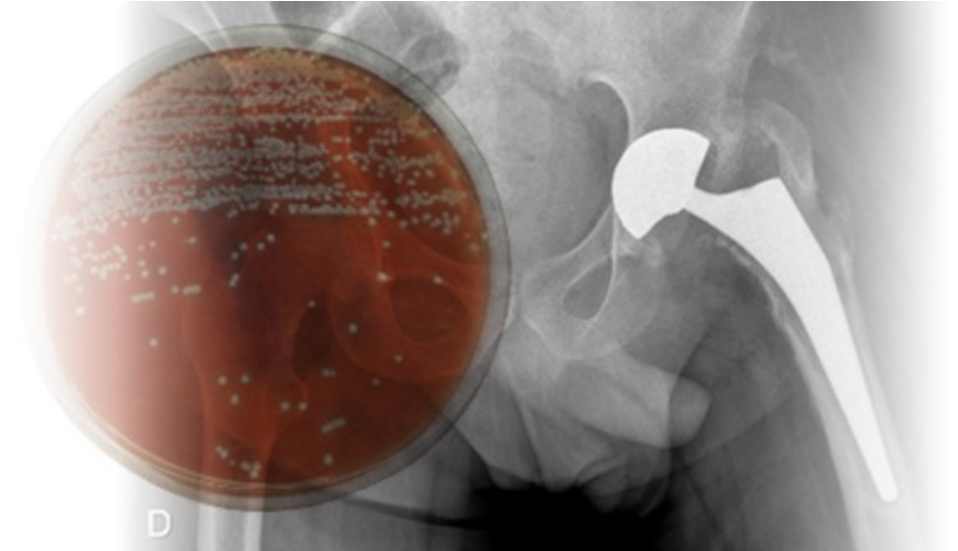
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