

Cutibacterium acnes et *Corynebacterium spp.* de vrais faux amis

Martin Rottman
UVSQ, APHP-HUPIFO

Déclaration d'intérêts de 2014 à 2018

- **Intérêts financiers :**

Fondateur d'*Antagonis*

- **Liens durables ou permanents :**

Membre du scientific advisory board de *Specific Diagnostics*

Consultant pour *Diaxonhit*

- **Interventions ponctuelles :**

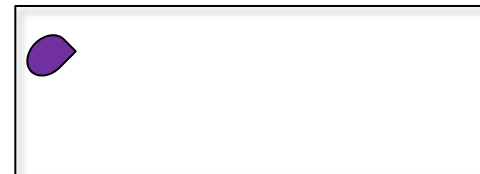
Curetis, Cepheid, QIAGEN





- **Intérêts indirects : non**

Déclaration de liens d'intérêt avec les industries de santé en rapport avec le thème de la présentation (loi du 04/03/2002) :

Intervenant : ROTTMAN Martin

Titre : *Cutibacterium acnes* et *Corynebacterium spp.*: de vrais faux amis



-  Consultant ou membre d'un conseil scientifique
-  Conférencier ou auteur/rédacteur rémunéré d'articles ou documents
-  Prise en charge de frais de voyage, d'hébergement ou d'inscription à des congrès ou autres manifestations
-  Investigateur principal d'une recherche ou d'une étude clinique
GENMARK Diagnostics

OUI NON

OUI NON

OUI NON

OUI NON

La peau, parent pauvre du microbiome

- MeSH (microbiome) 24258
- MeSH (microbiome AND digestive) 7815
- MeSH (microbiome AND skin) 496

Corynebacterium vs *Cutibacterium* : Points communs et différences

- Points communs

- Flore cutanée usuelle
- *Actinomycetales*
- Bacilles à C

- Différences

- ... aérobie
- ... mycoliques + vs -
- Palissade vs Branché

PAS TRES INTERESSANTES

Sensibilité aux antibiotiques

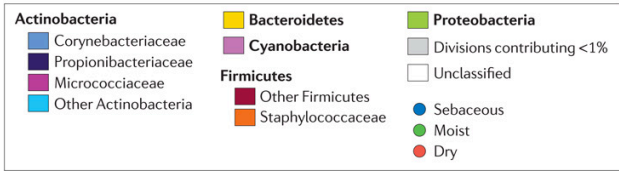
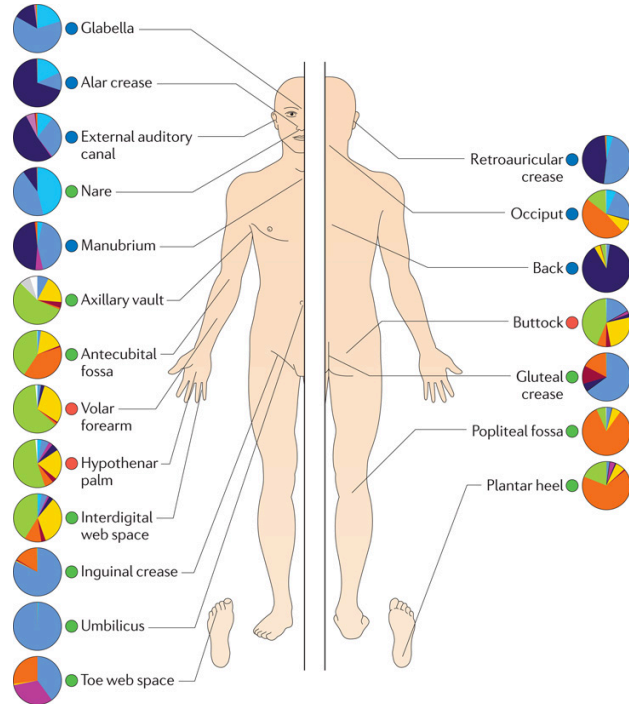
- *Cutibacterium*

- Anaérobies CA-SFM 2013
- Résistances naturelles
 - Fosfomycine
 - Metronidazole
- Résistances acquises (rares)
 - Macrolides
 - Rifampicine

- *Corynebacterium*

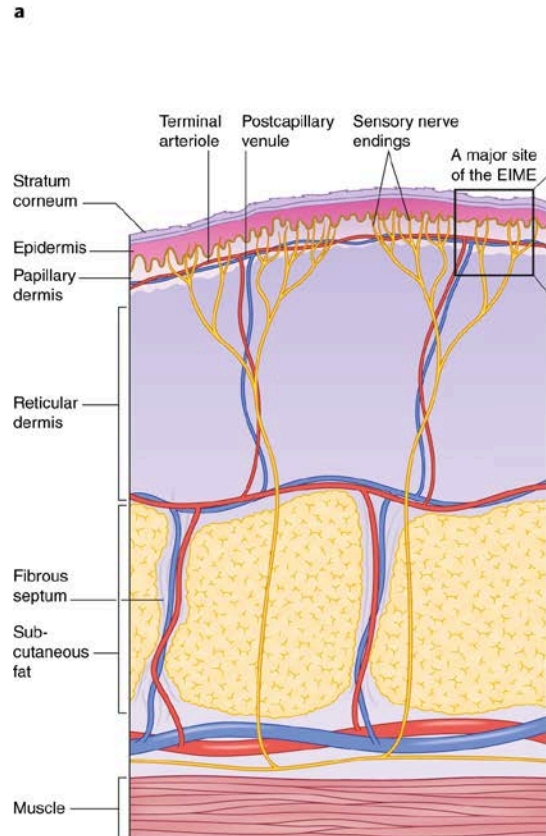
- Pas de concentration critiques pour
 - AMX
 - CTX/FEP
 - IMP/MEM
 - PIP/TZP
 - LVX
 - DAP

Microbiome cutané humain



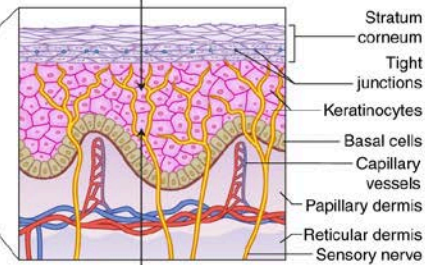
La fonction de barrière

a



Primary triggers for the keratinocyte responses:

- Microorganisms
- Physical damage
- Proteases



Secondary triggers for the keratinocyte responses:

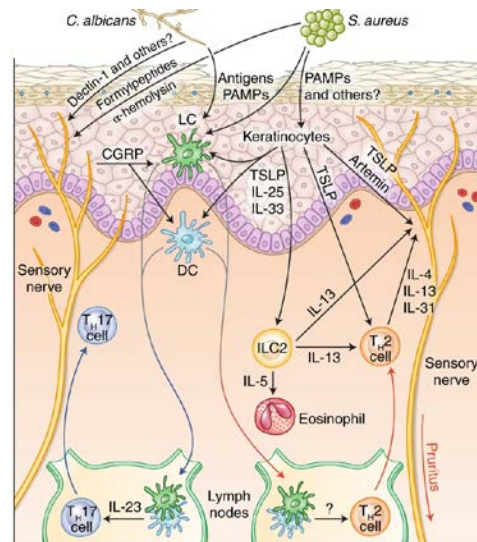
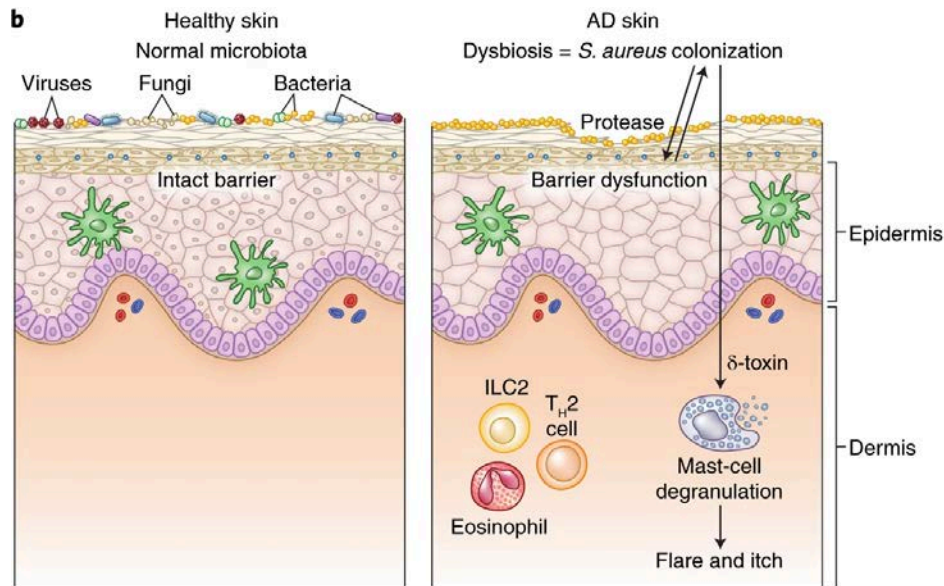
- IL-4, IL-13
- IL-17, IL-22

b

Roles of keratinocytes

- 1 Physical barrier
- 2 Release of cellular contents:
 - DNA, RNA
 - ATP
- 3 De novo production of epithelial cell mediator:
 - Cytokines
 - Chemokines
 - Lipid mediators

Dysbiose, inflammation, dysfonction de barrière




Corynebacterium spp

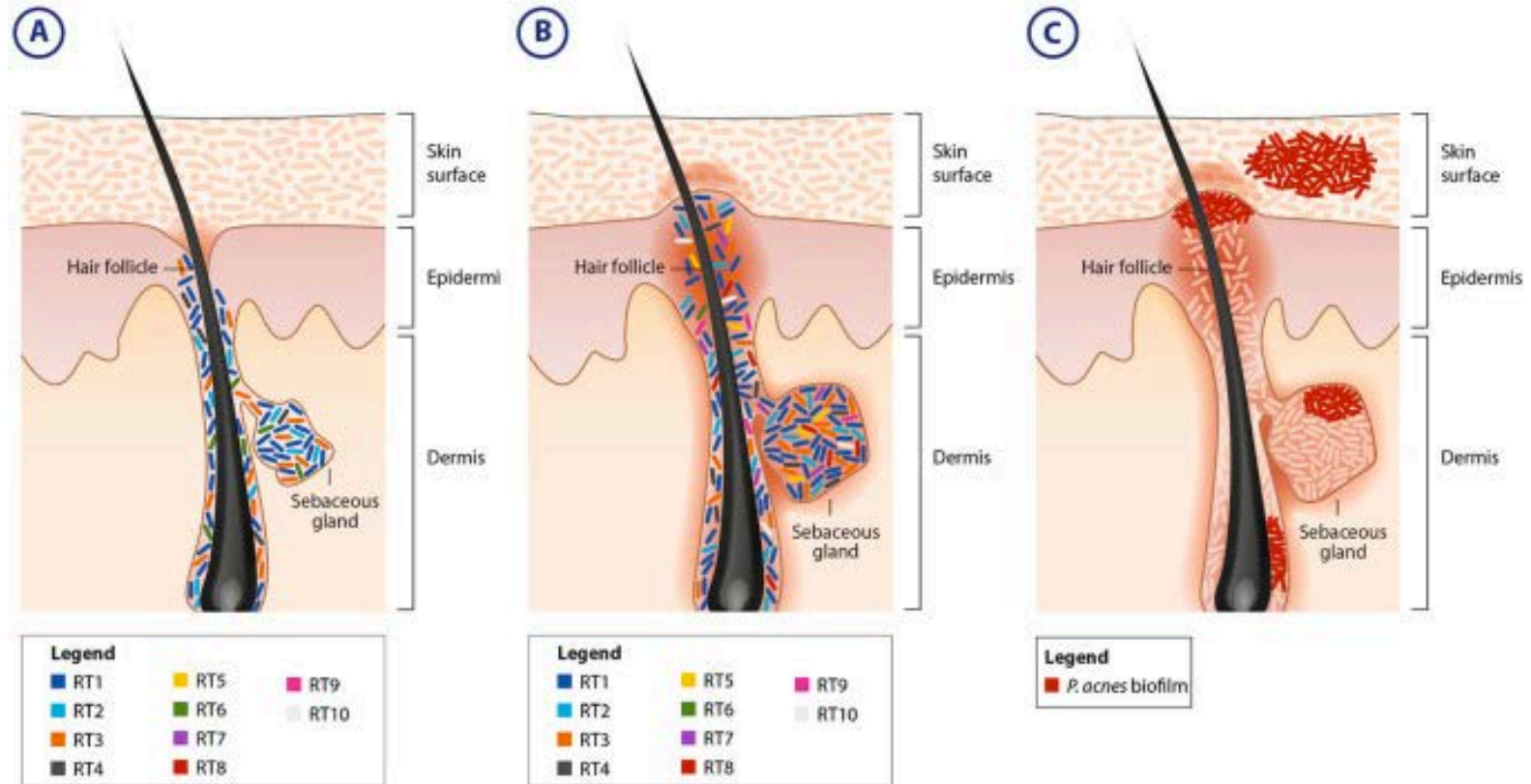
- *C. diphtheriae*
- *C. jeikeum* / *C. urealyticum*
- *C. striatum*
- *C. accolens*
- *C. glutamicum*
- *C. amycolatum*



Monomicrobial bone and joint infection due to *Corynebacterium striatum*: literature review and amoxicillin-rifampin combination as treatment perspective

Latifa Noussair¹ • Elsa Salomon² • Faten El Sayed^{1,2,3} • Clara Duran⁴ • Frédérique Bouchand⁵ • Anne-Laure Roux² • Jean-Louis Gaillard^{1,2} • Thomas Bauer⁶ • Martin Rottman¹ • Aurélien Dinh⁴ 

Le cas de *Cutibacterium acnes*



Sarcoidose: infection à *C. acnes*?

SCIENTIFIC REPORTS

OPEN

Immunohistochemical Detection of *Propionibacterium acnes* in the Retinal Granulomas in Patients with Ocular Sarcoidosis

Received: 14 August 2017
Accepted: 31 October 2017
Published online: 09 November 2017

Kenji Nagata¹, Yoshinobu Eishi², Keisuke Uchida², Kazuhito Yoneda¹, Hiroki Hatanaka³, Toru Yasuhara¹, Maho Nagata¹, Chie Sotozono² & Shigeru Kinoshita³

Zhao et al. *Respiratory Research* (2017) 18:28
DOI 10.1186/s12931-017-0515-z

Respiratory Research

RESEARCH

Open Access

High throughput 16SrRNA gene sequencing reveals the correlation between *Propionibacterium acnes* and sarcoidosis

Meng-Meng Zhao[†], Shan-Shan Du[†], Qiu-Hong Li[†], Tao Chen[†], Hui Qiu, Qin Wu, Shan-Shan Chen, Ying Zhou, Yuan Zhang, Yang Hu, Yi-Liang Su, Li Shen, Fen Zhang, Dong Weng[†] and Hui-Ping Li[†]



JOURNAL OF CLINICAL MICROBIOLOGY, Jan. 2002, p. 198–204
0095-1137/02/\$04.00+0 DOI: 10.1128/JCM.40.1.198-204.2002
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Vol. 40, No. 1

RESEARCH ARTICLE

Open Access



Is there any association between Sarcoidosis and infectious agents?: a systematic review and meta-analysis

Tiago Esteves^{1*}, Gloria Aparicio² and Vicente Garcia-Patos^{1,2}

Quantitative Analysis of Mycobacterial and Propionibacterial DNA in Lymph Nodes of Japanese and European Patients with Sarcoidosis

Yoshinobu Eishi,^{1*} Moritaka Suga,² Ikuo Ishige,¹ Daisuke Kobayashi,¹ Tetsuo Yamada,¹ Tamiko Takemura,³ Touchiro Takizawa,¹ Morio Koike,¹ Shoji Kudoh,⁴ Ulrich Costabel,⁵ Josune Guzman,⁶ Gianfranco Rizzato,⁷ Marcello Gambacorta,⁸ Ronald du Bois,⁹ Andrew G. Nicholson,¹⁰ Om P. Sharma,¹¹ and Masayuki Ando²

Intracellular *Propionibacterium acnes* Infection in Glandular Epithelium and Stromal Macrophages of the Prostate with or without Cancer

Vol. 45, No. 11

JOURNAL OF CLINICAL MICROBIOLOGY, Nov. 2007, p. 3721–3728
0095-1137/07/\$08.00+0 doi:10.1128/JCM.01543-07
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Direct Visualization of *Propionibacterium acnes* in Prostate Tissue by Multicolor Fluorescent In Situ Hybridization Assay[∇]

Oleg A. Alexeyev,^{1*} Ingrid Marklund,¹ Beverley Shannon,² Irina Golovleva,³ Jan Olsson,¹ Charlotte Andersson,³ Irene Eriksson,⁵ Ronald Cohen,^{2,4} and Fredrik Elgh^{1,5}

Departments of Pathology,¹ Clinical Genetics,³ and Virology,⁵ Umeå University, Umeå, Sweden, and Tissuegen/Uropath Pty. Ltd.² and Faculty of Medicine, University of Western Australia,⁴ Perth, Western Australia, Australia

Received 2 August 2007/Returned for modification 4 September 2007/Accepted 7 September 2007

to¹, Tadatsune Iida¹, Keisuke Uchida², Masaki Sekine², Yutaka Nakajima²,
ji Yokoyama⁴, Hiroshi Kawachi¹, Takumi Akashi², Yoshinobu Eishi^{1,2*}

y, Tokyo Medical and Dental University Graduate School, Bunkyo-ku, Tokyo, Japan, 2 Division of Surgical Pathology, Tokyo Medical and Dental University, Bunkyo-ku, Tokyo, Japan, 3 Department of Pathology, Yokohama City Minato Red Cross Hospital, Yokohama, Kanagawa, Japan, 4 National Institute of Public Health, Wako, Saitama, Japan

Infectious Agents and Cancer

RESEARCH ARTICLE

Open Access



Frequency and typing of *Propionibacterium acnes* in prostate tissue obtained from men with and without prostate cancer

Sabina Davidsson^{1,8,9*}, Paula Mölling², Jennifer R. Rider^{3,4,8}, Magnus Unemo², Mats G. Karlsson^{5,7}, Jessica Carlsson^{1,8}, Swen-Olof Andersson^{1,8}, Fredrik Elgh⁶, Bo Söderquist⁷ and Ove Andréén^{1,8}

Lombalgie spondylodiscite

Eur Spine J (2018) 27:1013–1020
<https://doi.org/10.1007/s00586-017-5291-4>



ORIGINAL ARTICLE

10.1111/j.1469-0691.2009.02801.x

ORIGINAL ARTICLE

Inflammatory response of disc cells against *Propionibacterium acnes* depends on the presence of lumbar Modic changes

Stefan Dudli^{1,2} · S. Miller³ · S. Demir-Deviren⁴ · J. C. Lotz¹

Urquhart et al. *BMC Medicine* (2015) 13:13
DOI 10.1186/s12916-015-0267-x

Spondylodiscitis due to *Propionibacterium acnes*: report of twenty-nine cases and a review of the literature

I. Uçkay^{1,2}, A. Dinh³, L. Vauthey¹, N. Asseray⁴, N. Passuti⁵, M. Rottman³, J. Biziraguseniyuka⁶, A. Riché⁷, P. Rohner², D. Wendling⁸, S. Mammou⁹, R. Stern¹, P. Hoffmeyer¹ and L. Bernard^{1,2,3,10}

1) Orthopaedic Surgery Service, University Hospital of Geneva, 2) Division of Infectious Diseases, University Hospital of Geneva, Geneva, Switzerland, 3) Division of Infectious Diseases, R. Poincaré University Hospital, APHP, Garches, 4) Division of Infectious Diseases, Hotel Dieu Hospital, Nantes, 5) Orthopaedic Surgery Service, Hotel Dieu University Hospital, Nantes, 6) Division of Infectious Diseases, University Hospital of Rennes, Rennes, 7) Division of Infectious Diseases, Hospital of Angoulême, Angoulême, 8) Division of Rheumatology, University Hospital of Besançon, Besançon, 9) Division of Rheumatology and 10) Division of Infectious Diseases, University Hospital of Tours, Tours, France



RESEARCH ARTICLE

Open Access

Could low grade bacterial infection contribute to low back pain? A systematic review

Donna M Urquhart^{1*}, Yiliang Zheng¹, Allen C Cheng¹, Jeffrey V Rosenfeld^{2,3}, Patrick Chan^{2,3}, Susan Liew^{2,4}, Sultana Monira Hussain¹ and Flavia M Cicuttini¹



20^{es} JNI, Lyon du 5 au 7 juin 2019



Clinical Microbiology and Infection 23 (2017) 396–399



Contents lists available at ScienceDirect

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journal homepage: www.clinicalmicrobiologyandinfection.com



Original article

Propionibacterium acnes endocarditis: a case series

J.M. Banzon^{1,*}, S.J. Rehm¹, S.M. Gordon¹, S.T. Hussain², G.B. Pettersson²,
N.K. Shrestha^{1,*}

¹ Department of Infectious Disease, Cleveland Clinic, Cleveland, OH, USA

² Department of Thoracic and Cardiovascular Surgery, Cleveland Clinic, Cleveland, OH, USA

Original article

Bacterial biofilms and capsular contracture in patients with breast implants

U. M. Rieger^{1,2}, J. Mesina³, D. F. Kalbermatten^{2,6}, M. Haug², H. P. Frey⁸, R. Pico⁹, R. Frei⁴,
G. Pierer¹, N. J. Lüscher⁵ and A. Trampuz^{7,10}

The Composition and Structure of Biofilms Developed by *Propionibacterium acnes* Isolated from Cardiac Pacemaker Devices

Ken-ichi Okuda^{1,2*}, Ryuichi Nagahori³, Satomi Yamada¹, Shinya Sugimoto^{1,2},
Chikara Sato⁴, Mari Sato⁴, Tadayuki Iwase^{1,2}, Kazuhiro Hashimoto³ and
Yoshitaka Mizuno^{1,2}

Infections sur matériel orthopédique

Journal of Infection (2007) 55, 119–124



www.elsevierhealth.com/journals/jinf

Propionibacterium acnes: An agent of prosthetic joint infection and colonization

Valérie Zeller ^{a,*}, Ali Ghorbani ^a, Christophe Strady ^b, Philippe Leonard ^a, Patrick Mamoudy ^a, Nicole Desplaces ^{a,c}



20^{es} JNI, Lyon du 5 au 7 juin 2019



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The Bone & Joint Journal, VOL. 99-B, NO. 11 | Arthroplasty

normal

The unsuspected prosthetic joint infection incidence and consequences of positive intra-operative cultures in presumed aseptic knee and hip revisions

A. M. E. Jacobs, M. Bénard, J. F. Meis, G. van Hellemond, J. H. M. Goosen

Published Online: 1 Nov 2017 | <https://doi.org/10.1302/0301-620X.99B11.BJJ-2016-0655.R2>

Molecular Typing of Multiple Isolates Is Essential to Diagnose *Cutibacterium acnes* Orthopedic Device–related Infection

Faten El Sayed,^{1,2,Ⓞ} Anne-Laure Roux,^{1,2} Guillaume Sapriel,^{3,4} Elsa Salomon,^{1,2} Thomas Bauer,^{3,5} Jean-Louis Gaillard,^{1,2} and Martin Rottman^{2,6}

¹Department of Microbiology, Hôpital Ambroise Paré, Boulogne-Billancourt, ²Unité mixte de recherche 1173, Inserm, and ³Faculté Des Sciences de la Santé Simone Veil, University of Versailles Saint-Quentin, Montigny-le-Bretonneux, ⁴Atelier de Bioinformatique, Paris ⁵Orthopedic Surgery Department, Hôpital Ambroise Paré, Boulogne-Billancourt, and ⁶Microbiology Department, Hôpital Raymond Poincaré, Garches, France

Définitions de l'infection sur PTA

Délai	0-3 Mois	3-24 Mois	>2 ans
Mécanisme	Périopératoire précoce	Périopératoire tardif	Secondaire
Pathogène	Virulent: <i>S. aureus</i> , BGN	Peu virulent: <i>S. epidermidis</i>	Hématogène: <i>S. gallolyticus</i>

Distribution temporelle des ODRI à *C. acnes*

	All Cases
N cases (%)	34
Median age, in years [IQR]	54 [28.75–69]
Sex ratio (M/F)	26/8
Median time since prosthesis insertion, in years [IQR]	1.9 [0.6–6.1]
Previous revision, no. [%]	11 [32.4%]



ORIGINAL PAPER

C-reactive protein may misdiagnose prosthetic joint infections, particularly chronic and low-grade infections

Daniel Pérez-Prieto^{1,2} · María E. Portillo³ · L Santos Martínez¹ · Lluisa Sorlí⁴ · Juan P. Ho

The Journal of Bone & Joint Surgery. 96(6):442–447, MAR 2014

DOI: 10.2106/JBJS.M.00258, PMID: 24647499

Issn Print: 0021-9355

Publication Date: 2014/03/01

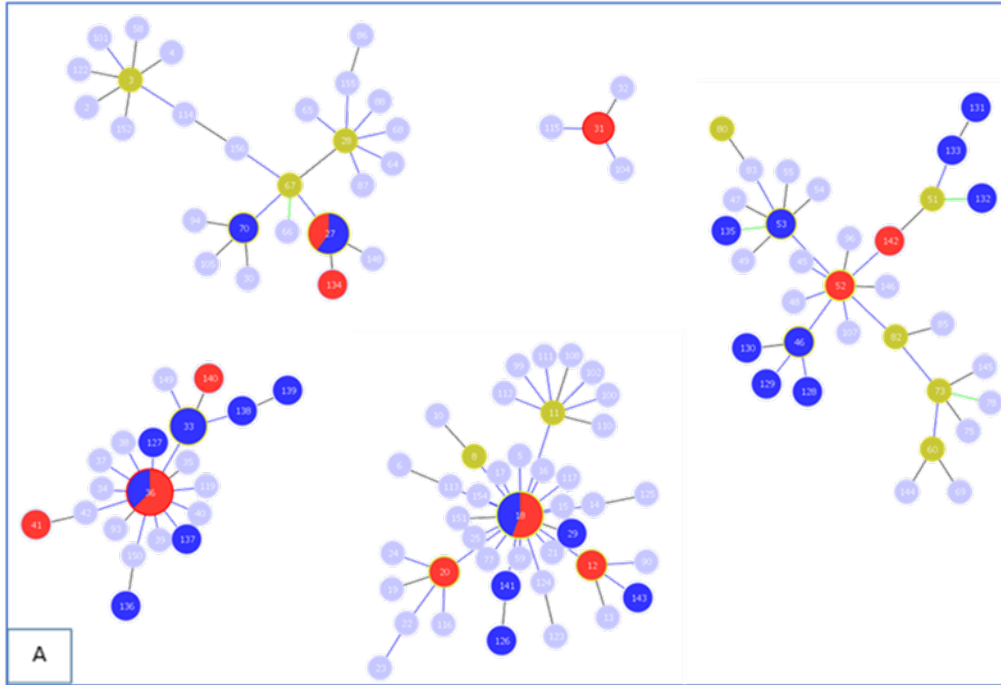


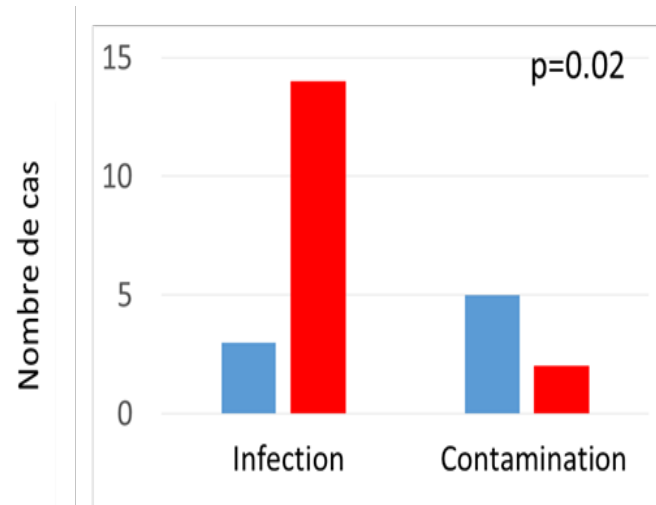
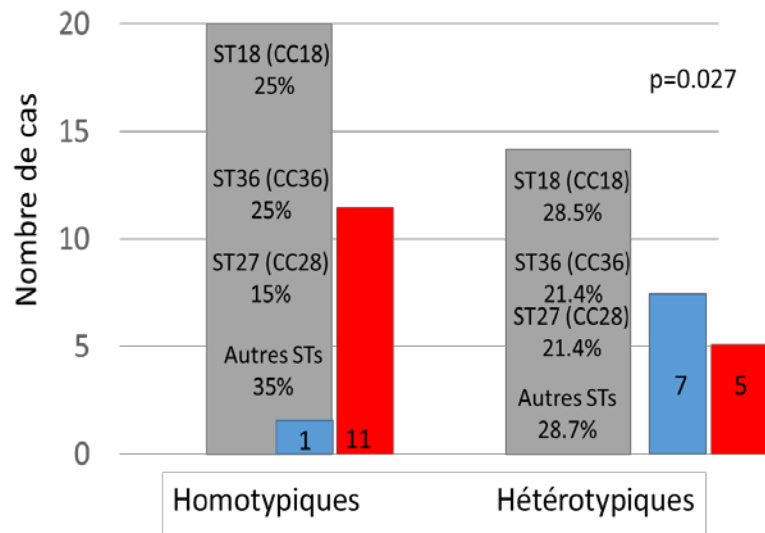
□ Print

Sensitivity of Frozen Section Histology for Identifying *Propionibacterium acnes* Infections in Revision Shoulder Arthroplasty

Matthew Grosso;Salvatore Frangiamore;Eric Ricchetti;Thomas Bauer;Joseph Iannotti;







- valeur pré-opératoire de la CRP ≤ 10 mg/L
- Valeur pré-opératoire de la CRP > 10 mg/L

- Si ça n'évoque pas une infection
- Si tous les biomarqueurs sont négatifs
- Si le même clone n'est jamais isolé deux fois

Peut-être que ce n'est pas une infection

Réinventons la colonisation asymptomatique

Remerciements

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- Prof. Alain Lortat Jacob
- Prof. Thierry Judet
- Dr. Simon Marmor

- **Infectious Diseases**

- Dr Aurelien Dinh
- Dr Benjamin Davido