

# Cutaneous *Staphylococcus lugdunensis* infection: an emerging bacterial pathogen

Lucas A Heldt Manica<sup>1</sup> BS, Philip R Cohen<sup>2</sup> MD

Affiliations: <sup>1</sup>John A. Burns School of Medicine, University of Hawaii, Honolulu, Hawaii, USA, <sup>2</sup>Department of Dermatology, University of California San Diego, La Jolla, California, USA

Corresponding Author: Lucas A. Heldt Manica, University of Hawaii, Honolulu, HI 96822, Email: [manica@hawaii.edu](mailto:manica@hawaii.edu); Philip R. Cohen, MD, Department of Dermatology, University of California San Diego, La Jolla, CA 92037, Email: [mitehead@gmail.com](mailto:mitehead@gmail.com)

## Abstract

*Staphylococcus lugdunensis* is a part of the normal skin flora. However, this organism can be a pathogen in certain situations such as advanced age or immunosuppression. Further study regarding situations in which this bacterium becomes a pathogen is warranted.

Keywords: abscess, bacteria, cutaneous, emerging, infection, *Staphylococcus lugdunensis*, paronychia, pathogen, skin

## Introduction

We read with interest the informative report by di Meo et al. [1] of an immunocompetent 60-year-old man with a cutaneous methicillin-resistant *Staphylococcus lugdunensis* (*S. lugdenensis*) infection. His skin infection that began on the left elbow as single nodule subsequently spread to the left leg as multiple painful purple nodules and ulcers in a sporotrichoid pattern. There was no prior history of trauma to the elbow or leg. He was successfully treated with ten days of intravenous vancomycin.

*S. lugdunensis* is a part of the normal skin flora and has primarily been considered to be a non-pathogenic organism. However, several investigators have recently described cutaneous infections caused by *S. lugdenensis* [2-8]. Indeed, we reported skin infections in five individuals — with

either an abscess involving the back (three patients, **Figure 1**) or paronychia (two patients) — secondary to *S. lugdenensis* [9].



**Figure 1.** *Staphylococcus lugdunensis* cutaneous infection manifesting as a painful abscess on the left lower back of a 70-year-old woman.

The five patients in our series ranged in age from 30 years to 82 years at the onset of their infection; the median age was 70 years. Four of the patients were older than 65 years. Three of the patients were receiving immunosuppressive therapy when their infection occurred [9].

For example, one of the patients in our series was a 70-year-old woman who was being treated with methotrexate for seronegative rheumatoid arthritis who claimed to have been bitten by an insect on her left lower back nine days prior at the beach. She was



**Figure 2.** Complete resolution of the *Staphylococcus lugdunensis* cutaneous infection on the back of a 70-year-old woman after incision and drainage followed by treatment with cephalexin 500 mg four times daily for 10 days; on day 5 of antibiotic therapy, doxycycline 100 mg twice daily was also added for 10 days.

afebrile and had a tender abscess with surrounding cellulitis (**Figure 1**). After incision and drainage, she

began cephalexin 500 mg four times daily for ten days; doxycycline 100 mg twice daily for ten days was added at her follow-up visit five days later. Her infection resolved within three weeks of starting treatment and there was no recurrence (**Figure 2**).

In contrast to the *S. lugdunensis* skin infection of the di Meo et al. [1] patient, all the cultured strains of *S. lugdunensis* from our patient's infectious lesions demonstrated susceptibility to methicillin. Each of our patients was treated with systemic and topical antibiotics. The infections resolved within ten to 30 days after commencing treatment (**Figure 2**), [9].

In conclusion, *S. lugdunensis* is an emerging bacterial pathogen. Additional reports of cutaneous infection caused by *S. lugdunensis* will help to characterize the features of this bacterium as an infectious skin organism. Therefore, we concur with di Meo et al. [1] that clinicians need to be aware of the potential for *S. lugdunensis* to be a bona fide pathogen of cutaneous infections.

## References

1. di Meo N, Trevisini S, Noal C, Nan K, Trevisan G. *Staphylococcus lugdunensis* cutaneous infection with sporotrichoid distribution. *Dermatol Online J*. 2017;23(8):17. [PMID not available].
2. Arias M, Tena D, Apellániz M, Asensio MP, Caballero P, Hernández C, Tejedor F, Bisquert J. Skin and soft tissue infections caused by *Staphylococcus lugdunensis*: report of 20 cases. *Scand J Infect Dis*. 2010;42:879-84. [PMID: 20735327].
3. Lozano-Masdemont B, Gómez-Recuero-Muñoz L, Pulido-Pérez A. *Staphylococcus lugdunensis*: an emerging pathogen in skin and soft tissue infections. *Actas Dermosifiliogr*. 2015;106:769-70. [PMID: 26076877].
4. Lacour M, Posfay-Barbe KM, La Scala GC. *Staphylococcus lugdunensis* abscesses complicating molluscum contagiosum in two children. *Pediatr Dermatol*. 2015;32:289-91. [PMID: 25557353].
5. Donoghue S, Vekic D, Wehrhahn M, Whitfield M. *Staphylococcus lugdunensis*: case report and discussion. *Australas J Dermatol*. 2014;55:301-03. [PMID: 25399790].
6. Al-Charrakh AH, Obayes MH. First record of isolation and characterization of methicillin resistant *Staphylococcus lugdunensis* from clinical samples in Iraq. *Biomed Res Int*. 2014;2014:736259. [PMID: 25126573].
7. Bocher S, Tønning B, Skov R, Prag J. *Staphylococcus lugdunensis*, a common cause of skin and soft tissue infections in the community. *J Clin Microbiol*. 2009;47:946-50. [PMID: 19244465].
8. Herchline T, Ayers L. Occurrence of *Staphylococcus lugdunensis* in consecutive clinical cultures and relationship of isolation to infection. *J Clin Microbiol*. 1991;29:419-21. [PMID: 2037657].
9. Heldt Manica LA, Cohen PR. *Staphylococcus lugdunensis* infections of the skin and soft tissue: a case series and review. *Dermatol Ther (Heidelb)*. 2017 Oct 11 [Epub ahead of print]. [PMID: 29022273].