

# 6-Year Hidradenitis Suppurativa with *Nocardia Otitidiscaviarum*

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## ABSTRACT

Hidradenitis suppurativa is a chronic recurrence disorder of the folliculopilosebaceous units; the most common locations are the axillary, inguinal, inframammary, genital, or perineal areas. They are commonly characterized by recurrence inflammation and the development of sinus tract formations. Most causative pathogens are bacterial (Coagulase–negative staphylococci) or fungal. Early diagnosis and treatment can reduce morbidity with good cosmetic results.

**Keywords:** hidradenitis suppurativa; nocardia; skin infection

## INTRODUCTION

*Nocardia* spp. are gram–positive aerobic bacteria which are usually found in soil, water, and air. Although nocardiosis can occur in any organ, including the brain, lungs, skin, and eyes, the normal route of infection is inhalation or direct cutaneous contact.<sup>1–3</sup> Out of all the *Nocardia* species, *Nocardia asteroides*, *Nocardia farcinica*, and *Nocardia brasiliensis* are the primary pathogens causing

nocardiosis, with *Nocardia otitidiscaviarum* and other species being rarely found.<sup>4–7</sup>

Treatment options in hidradenitis suppurativa are based on Hurley's stages. They include education and support, antimicrobial and/or antifungal drugs, and surgery. The first line antimicrobial is Trimethoprim/sulfamethoxazole (TMP/SMX), minocycline, or linezolid, combined with a carbapenem or third–generation cephalosporin with or without amikacin for severely ill patients.<sup>8,9</sup>

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doi: 10.31584/psumj.2022253100

<https://he01.tci-thaijo.org/index.php/PSUMJ/>

PSU Med J 2022;2(2):55–58

Received 22 November 2021

Revised 23 February 2022

Accepted 27 February 2022

Published online 19 May 2022

## SHORT REPORT

A 36-year-old Thai female presented with an axillary mass for two months before seeing the doctor. She had no underlying diseases and was not taking any immunosuppressive drugs. She had been diagnosed 8 weeks previously with hidradenitis suppurativa at a rural hospital, and treated with surgical drainage and oral dicloxacillin. Then a sample sent for pathology at the rural hospital. The pathologist reported Actinomycosis, multiple abscess foci and inflammatory fistulae. The antibiotic was amoxicillin, but her clinical condition continued to deteriorate. The antibiotics was switched to ampicillin and combined with clindamycin. The patient was found to be allergic to ampicillin, so the doctor switched her medication. After being treated with hidradenitis suppurativa for six years, the patient was lost to follow-up (Figure 1).

One year before she came to our hospital, the patient had progressive armpit pain and swelling, and was treated with surgical drainage and antimicrobial were performed and she was referred to Songklanagarind Hospital for further treatment. She was examined by a general surgeon who consulted a plastic surgeon for surgical removal of armpit mass. A computed tomography (CT) scan showed diffuse infiltration at the left upper chest and left armpit region (Figure 1). The laboratory findings included a white blood cell count of 25,180/ul (neutrophils 86.2%, lymphocytes 7.4%), platelet count 498,000/ul, toxic granulation few.

At first, she was empirically treated with intravenous penicillin G with a slow grade challenge protocol due to a history of ampicillin allergy. She passed the penicillin G allergy blood test. She was giving intravenous penicillin G 4mU every 4 hours. And the surgical drainage, irrigation, and silver dressing using Urgotul with silver, two samples of the purulent tissue were taken. One for aerobic and anaerobic bacteria and fungal and mycobacterium culture, the other for modified acid-fast bacteria stain. The modified AFB stain reported gram-positive branching filamentous bacilli. Then the antibiotic was changed to intravenous

imipenem combined with cilastatin 1,000 mg every 8 hr for one month and intraoral cotrimoxazole (TMP80) 3 tablets in the morning and evening for one year. The causative pathogen was confirmed to be Nocardia otitidiscaviarum. A CT chest after 3 month showed the diffuse infiltration at the left upper chest had disappeared correlating with her clinical improvement (Figure 2). The pain at her armpit had resolved and she had gained about 3 kilograms in weight. Psychosocial support was provided for her and she was followed up until she had completed her full course of oral antibiotics (Figure 2).

## DISCUSSION

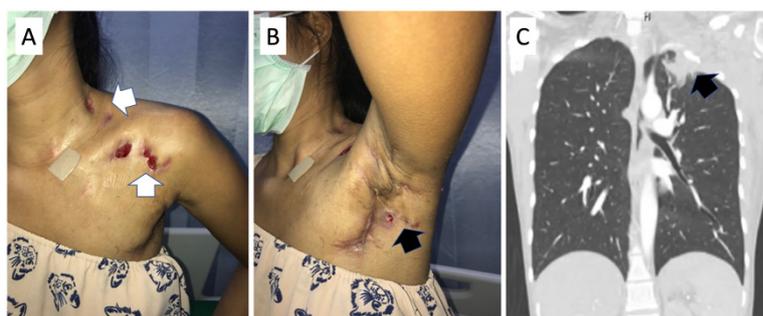
Nocardiosis in hidradenitis suppurativa is a rare condition in surgery. The aim of treatment in hidradenitis suppurativa is early diagnosis and intervention based on Hurley's stages. This patient was classified as stage III after suffering from this disease for six years. The key treatment in this patient was psychological. If a patient understands and agrees with their care plan, they are more likely to adhere to the plan, and the outcome of the wound management will be most effective.

In this report, we describe a case of nocardiosis in hidradenitis suppurativa, which is very rare in the surgical field. The patient was treated with surgical drainage and advanced wound dressing combined with an intravenous antibiotic, imipenem, combined with cilastatin 1,000 mg every 8 hours for one month and intraoral cotrimoxazole (TMP80) 3 tablets in the morning and evening for one year.

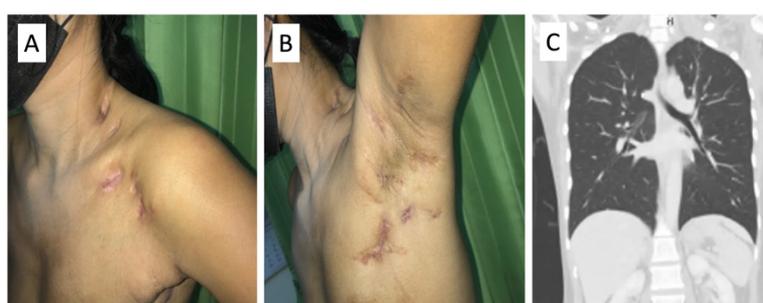
This case might help increase awareness of this condition by the surgeon or medical provider and guide the treatment for nocardiosis in hidradenitis suppurativa.

## CONCLUSION

This report presents a case of nocardiosis in hidradenitis suppurativa in a 36-year-old Thai female without underlying diseases A large mass at the right upper lung extending to the armpit was identified from a CT scan.



**Figure 1** Pictures and x-ray of her condition prior to treatment



**Figure 2** Pictures and x-ray of her condition post treatment

The patient was treated with surgical drainage, advanced wound dressing, intravenous antibiotics, and psychological support.

#### What is already known on this topic?

Nocardiosis in hidradenitis suppurativa is a rare condition that can present with a mass at the chest wall. Treatment with surgical intervention combined with antibiotics depends on the stage, and psychological treatment is essential for curative completion. Nocardiosis can be diagnosed from gram stain or molecular taxonomy to identify the particular *Nocardia* species. Intravenous antibiotic is the primary treatment, with advanced dressing to help eliminate infection in the wound.

#### What this study adds?

This report describes a rare case of hidradenitis suppurativa with nocardiosis in a 36-year-old Thai female who presented with an armpit mass. An obliterated upper

lung was seen on the CT scan. A gram stain identified *Nocardia otitidiscaviarum*. The patient received antibiotic treatment, surgical drainage, and psychological support.

#### CONFLICTS OF INTEREST

The authors declare no personal or professional conflicts of interest and no financial support was received from any pharmaceutical companies.

#### REFERENCES

1. Margesson LJ, Danby FW. Hidradenitis suppurativa. *Best Pract Res Clin Obstet Gynaecol* 2014;28:1013–27.
2. Jiang Y, Huang A, Fang Q. Disseminated nocardiosis caused by *Nocardia otitidiscaviarum* in an immunocompetent host: A case report and literature review. *Exp Ther Med* 2016;12:3339–46.
3. Kato K, Noguchi S, Naito K, Ikushima I, Hanaka T, Yamasaki K, et al. Pulmonary nocardiosis caused by *Nocardia exalbida* in a patient with lung cancer and radiation pneumonitis: a case report and literature review. *Intern Med* 2019;58:1605–11.

4. Liu C, Feng M, Zhu J, Tao Y, Kang M, Chen L. Severe pneumonia due to *Nocardia otitidiscaviarum* identified by mass spectroscopy in a cotton farmer: A case report and literature review. *Medicine (Baltimore)* 2017;96:e6526.
5. Nguyen NM, Sink JR, Carter AJ, Asrani F. Nocardiosis incognito: Primary cutaneous nocardiosis with extension to myositis and pleural infection. *JAAD Case Rep* 2018;4:33-5.
6. Yu X, Han F, Wu J, He Q, Peng W, Wang Y, et al. *Nocardia* infection in kidney transplant recipients: case report and analysis of 66 published cases: Nocardiosis in renal transplant. *Transpl Infect Dis* 2011;13:385-91.
7. Pelaez A, del Mar Garcia-Suarez M, Manteca A, Melon O, Aranaz C, Cimadevilla R, et al. A fatal case of *Nocardia otitidiscaviarum* pulmonary infection and brain abscess: taxonomic characterization by molecular techniques. *Ann Clin Microbiol Antimicrob* 2009;8:11.
8. Nakamura I, Nagakura T, Fujita H, Fukushima S, Gono T. *Nocardia elegans* infection: a case report and literature review. *Int J Infect Dis* 2017;54:15-7.
9. Chikowski RE, Sprigle AM, Krishna SM, Nunley JR. Primary cutaneous *Nocardia vinacea* in a renal transplant recipient: report of a rare case and review of the literature. *Clin Exp Dermatol* 2014;39:534-6.