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Letter to the Editor

Comment on a Primary Cutaneous *Nocardiosis* of the Hand

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Abstract

Nocardia spp. are gram-positive, partially acid-fast bacteria which are lives in environmental sources and cause of various infection that called nocardiosis in animals and humans. Identification of this group of bacteria was important due to accurate diagnosis, patient management and prevention of antibiotic resistant among of bacteria. Molecular methods including PCR-RFLP and sequencing using housekeeping genes such as 16S rRNA, hsp65, rpoB and gyrB are recommended to accurate and reliable identification of nocardiosis.

Dear Editor,

Camozzota et al., recently published their report on A Primary Cutaneous Nocardiosis of the Hand [1]. *Nocardia* spp. is opportunistic environmental bacteria which are saprophytic lives in hospital environmental resources that through to the human body via inhalation of environment aerosols and cutaneous traumatic inclusion which cause of nocardiosis in immune disorder patients and even healthy individuals [2][3].

Nocardia species are identified using conventional test and molecular methods that phenotypic tests are laborious, time-consuming, expensive and need to expertise technicians while molecular methods such as direct sequencing of the *hsp65* (using pair primers of TB11: 5′-ACCAACGATGGTGTGTCCAT-3′ and TB12: 5′-CTTGTCGAACCGCATACCCT-3′) and 16S rRNA (whit primers 27f (5′-AGAGTTTGATCMTGGCTCAG-3′ and 1525r (5′-AAGGAGGTGWTCCARCC-3′) and PCR-RFLP are reliable, accurate and rapid for identification of nocardial infections especially in emergency cases for example in nocardial disseminated infections that necessary to urgent identifying *Nocardia* spp. before death of patients [3][4][5]. Based on the literatures, antimicrobial drug susceptibility of *Nocardia* species are different.

Also in many countries, Trimethoprim-sulfamethoxazole (TMP-SXT) is first choice for treatment of nocardiosis infection whereas reports have showed that high mortality rate of patients with brain abscess and disseminated which treated with sulfonamides alone [3]. Therefore, due to final diagnosis, appropriate treatment of patients *Nocardia* should be identified to the species level [3][6].

I'm request the authors attend to the following questions.

1. According to reports other aerobic actinomycetes including *Mycobacterium tuberculosis*, *non-tuberculosis mycobacteria* (NTM), *Gordonia*, *Rhodococcus* and *Tsukamurella* are similar to *Nocardia* spp. are same phenotypic features (microscopic evaluation and colony morphology); and can cause of cutaneous infections in human [7]. Please explain the *Nocardia* isolation method, which was not mentioned in the report.

2. Please clarify how *Nocardia* was identified to the species level.

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Authors reply

We very much appreciate the interest of Masoud Keikha in our recent case report on *Nocardiosis* of the hand. We are aware of high standard diagnostic procedures as described in your letter. However, the diagnostic opportunities are not easily available in daily practise. In our case the final diagnosis was obtained by culture.

In order to exclude *Mycobacteria tuberculosis*, Ziehl-Neelsen (acid fast stain) coloration was used. In addition we used Kinyoun stain, an acid-fast procedure used to detect species of the genus *Mycobacterium, Nocardia* and other species.

Unfortunately, it was not possible to identify the exact *Nocardia* specimen.

With kind regards,

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