

中文題目：諾卡氏菌和結核菌之共同感染: 病例報告及文獻探討

英文題目：Concurrent pulmonary nocardiosis and tuberculosis infection: A case report and literature review

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Introduction

Pulmonary tuberculosis is a popular infectious disease in Taiwan, and may occur with other opportunistic infections such as pulmonary nocardiosis. The radiology characteristics and clinical manifestations of pulmonary nocardiosis are similar to that of pulmonary tuberculosis, which leading to patients wrongly treated with anti-tuberculosis drugs. Therefore, early diagnosis of co-infection could be lifesaving. Herein, we present a case of concurrent pulmonary tuberculosis and nocardiosis infection.

Case presentation

A 65-year-old man without any significant underlying disease but a heavy smoker previously was brought to emergent department in Kaohsiung municipal Hsiaokang hospital due to productive cough with purulent sputum for one month. In addition, fever (especially at night), dyspnea, poor appetite, and body weight loss (4 to 6 kg within one month) were also presented. The chest radiography revealed bilateral lung opacities, with more prominence in the left side. (Fig 1) The computed tomography (CT) of chest disclosed consolidation in the both lung with cavitary lesions. (Fig 2) Under the impression of community-acquired pneumonia, pulmonary tuberculosis should be excluded, he was admitted to isolation room and received antibiotics therapy with Moxifloxacin initially. After antibiotics treatment, both fever and infection parameters showed obvious improvement. Since his sputum sample was positive for acid fast bacilli with 4+ grading afterwards, anti-tuberculosis medicine with HERZ (Isoniazid, Ethambutol, Rifampin, and Pyrazinamide) was prescribed. Meanwhile, Moxifloxacin was stopped due to complete antibiotics course with five days. However, fever flare-up was noted after antibiotics withdrawl. To make matters worse, desaturation and blood pressure drop developed then. Due to acute hypoxemia respiratory failure and septic shock, he was transferred to intensive care unit (ICU) for further management. In ICU, endotracheal tube intubation and central venous catheter insertion as the pathway for vasopressor administration were performed on the patient. Considering fulminant clinical progression, sputum smear was done to help us clarify the possible pathogen. And it revealed branching, filamentous, beaded gram-positive rods, considering *Nocardia spp.* (Fig 3) Antibiotics with Meropenem was then given. Nevertheless, the clinical course of the patient still deteriorated rapidly. Because of profound shock status under triple vasopressors, we informed his family poor prognosis. After discussion, against advice discharge under critical status was arranged for the patient with his family's consent.

Discussion

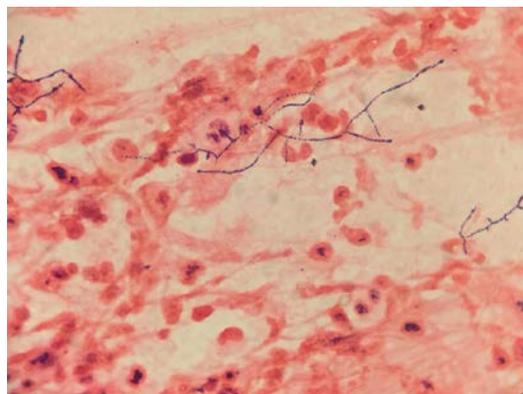
Tuberculosis and nocardiosis can coexist but very rare. Up to date, there are only seven cases reported about concomitant pulmonary nocardiosis and tuberculosis infection. Early detection of *Nocardia spp.* is one of the prognostic factor of pulmonary nocardiosis since it has high mortality rate (14~40%). However, the clinical presentations and the characteristics of chest image are similar between pulmonary tuberculosis and nocardiosis. In our experience, morphology and specialized stain play an important role to distinguish pulmonary tuberculosis and nocardiosis earlier. Furthermore, in addition to immunocompromised status, chronic lung disease is also a risk factor for pulmonary nocardiosis. Hence, if a patient with pulmonary tuberculosis does not have a good response to anti-tuberculosis medicine, the possibility of concomitant pulmonary nocardiosis should be kept in mind.



(Fig 1) The chest radiography revealed bilateral lung opacities, with more prominence in the left side.



(Fig 2) The chest computed tomography disclosed consolidation in the both lung with cavitary lesions.



(Fig 3) the sputum smear revealed branching, filamentous, beaded gram-positive rods, considering *Nocardia spp.*