Letter To The Editor

Nocardiosis in Immune Disorder Disease

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Dear Editor,

Nocardia species are aerobic, Gram-positive, partially acid fast, non-motile and filamentous actinomycetes found all around the world as saprophytic component of the normal soil microflora (1). The genus *Nocardia* are caused infections in pulmonary disease (pulmonary nocardiosis) and extra pulmonary disease (cutaneous nocardiosis, brain abscess, mycetoma, bacteremia and septicemia). Chronic sarcoidosis, emphysema or chronic bronchitis, asthma and bronchiectasis occurs in chronic lung disease due to nocardiosis. *Nocardia* species are facultative intracellular pathogens that able to infect bouth immunocompromised and immunocompetent individuals (2–4). In recent years, increased the number of reports about *Nocardial* infection and were reported 500 to 1000 cases from United States per 12 months. The first clinical signs in pulmonary nocardiosis are very similar to pulmonary tuberculosis. The clinical manifestations in *Nocardia* infection are including fatigue, malaise, weight loss, cough, and dyspnoea (5). The genus *Nocardia* may invade the human body from the environment via trauma and the respiratory system and provides pulmonary and cutaneous *Nocardia* infection (6,7). Chronic granulomatous disease (8), transplant recipients (9), rheumatoid arthritis, systemic lupus erythematous (10), Behçet disease (11), and pemphigus vulgaris (12) are immune disorder diseases that use of corticosteroids and immunosuppressive drugs. Various microorganisms are caused infection in auto immune disease patients that are included *Trypanosoma cruzi, Giardia lamblia, Pneumocystis jiroveci, Streptococcus pyogenes, Streptococcus pneumonia,* mycobacteria, *Moraxella catarrhalis,* Theiler's virus, coxsackie virus B3, cytomegalovirus, *Haemophilus influenza* (10,13,14). In recent decades, nocardiosis is increased in these patients (15,16). The virulence factors are resistant to intercellular killing by macrophage and inhibit phagosome-lysosome fusion in infected mononuclear phagocytes (10). The most common cause of *Nocardia* infection is *Nocardia asteroides* complex (*Nocardia asteroides VI, farcinica, Nocardia nova, Nocardia abscessus*) although the other *Nocardia* spp. being, *Nocardia transvalensis*, *Nocardia otitidiscaviarum, Nocardia brasiliensis* (the most common infection in primary cutaneous nocardiosis), *Nocardia pseudobrasiliensis* (2,10,17). Some *Nocardia* spp. such as *Nocardia brasiliensis* are more common in tropical or subtropical climates. In a studied by Saubolle and Susslandin in 2003, were reported that nocardiosis are more common in warm and dry climates. They presume that in the regions may comfort the aerosol production and scissoring of the bacterium and raise aerosol inhalation (2). Nocardiosis therapy depends on the severity and site of the infection, immune status of the patient and *Nocardia* spp. involved (5). Isolation and identification *Nocardia* spp. is important for antibacterial treatment (1). Trimethoprim-sulfamethoxazole, meropenem, imipenem, ceftriaxone, moxifloxacin and linezolid are used in the successful treatment of *Nocardia* species while the penicillin's have little effect on *Nocardia* spp. (2,18,19). In summary, although early isolation and identification of the microorganism are crucial to treatment of the nocardial infections, corticosteroids and immunosuppressive drugs can be considered as predisposing factors for opportunistic infections.

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