

CASE REPORT

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Mycobacterium Marinum Infection after Infliximab Therapy

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ABSTRACT

A case of *Mycobacterium Marinum* infection of the nasal cavity is described. A 57 years old man was being on Infliximab for 2 years for severe psoriasis presented with five months history of epistaxis, nasal blockage and snoring. Local examination revealed bilateral nasal mass. The diagnosis of mycobacterial infection was suspected based upon the histopathological finding of granuloma in the biopsy specimen, and later confirmed by Mycobacterial culture. The patient was treated with 3 months therapy of Ethambutol and Rifampicin with good clinical response.

The clinical presentation of the case is discussed with a review of the literature about current guidelines for prophylaxis and other preventive strategy for infection among patients receiving TNF antagonists.

Key words: Nontuberculous Mycobacterium; *Mycobacterium Marinum*; Infliximab; Tumor Necrosis Factor; Granuloma

INTRODUCTION

Tumor Necrosis Factor (TNF) is a proinflammatory cytokine which plays an important pathogenic role in many inflammatory conditions, hence TNF antagonists have been used as a promising therapeutic agents for patients with severe autoimmune and rheumatologic conditions; and its usage has led to important advances in the treatment of such inflammatory conditions. Because TNF plays also a crucial role in the process of granuloma formation and maintenance, which are key components of host defenses against intracellular pathogens,^{1,2} the increased clinical use of TNF antagonists has been accompanied by increased

reporting of granulomatous infectious diseases, such as tuberculosis and nontuberculous mycobacterium among patients treated with those agents.³⁻⁵

Here; we report a case of *Mycobacterium Marinum* infection in the nasal cavity in a 57 years old patient after 2 years therapy with Infliximab; without any history of exposure to water or aquatic environment, rather he admitted waxing for hair removal in the nasal cavity 2 weeks prior to development of nasal lesion.

CASE REPORT

A 57 years old man with a background of diabetes mellitus, hypertension, hyperlipidemia and ischemic heart disease, diagnosed as a case of severe plaque psoriasis with psoriatic arthropathy for the past 15 years, and had been treated with different immunosuppressive drugs with no significant

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improvement; accordingly, he was started on anti tumor necrosis factors (Infliximab) with a dose of 450mg (5mg/kg) every 8 weeks. Prior to starting this treatment, the patient had been screened for latent TB with PPD testing and chest X-ray. PPD test was non reactive (<5mm) and Chest X ray was normal.

Two years after starting Infliximab, the patient started to complain of epistaxis, nasal blockage and snoring. Local nasal examination revealed bilateral nasal mass (on both sides of the nasal septum; but being larger on the right side of the nose), nasoscopy was done and excisional biopsy of the mass showed granuloma with no malignant cells and negative acid fast bacilli stain.

Serology with antinuclear antibodies, ANCA(C&P) were negative, the patient had recurrence of the nasal mass 2 month after the initial excision , so he had another excisional biopsy which showed granuloma with positive stain for AFB(Figure 1), so Infliximab was withheld temporarily , and the patient was started on empiric antituberculous therapy (Isoniazid, Rifampicin, Ethambutol and Pyrazinamide).

Result of mycobacterial culture came positive for *Mycobacterium Marinum*, accordingly the antimycobacterial regimen was modified to Ethambutol and Rifampicin only.

CT scan of chest, abdomen and pelvis was done and reported to be normal.

The patient was treated with Ethambutol and Rifampicin for 3 months with good clinical response.

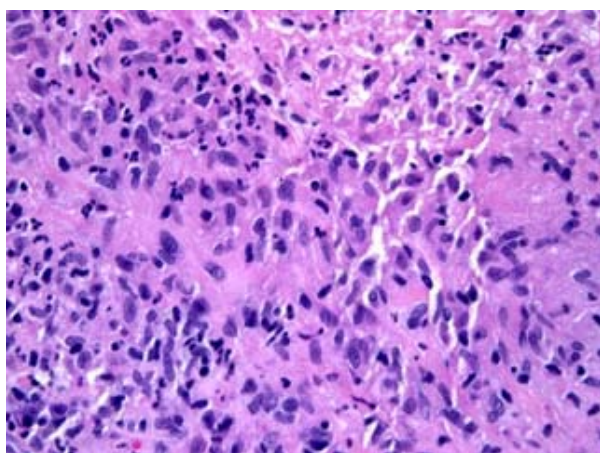


Figure 1. In the deep reticular dermis, extending to the base of the specimen, there is suppurative and granulomatous inflammation with central necrosis

DISCUSSION

M. marinum is a nontuberculous mycobacterium, which is usually found on plants, soil, and fish in freshwater and saltwater worldwide.⁶ Historically it was described after its discovery on saltwater fish in the Philadelphia Aquarium in 1926, In 1951 the first human skin infection was reported among people who swam in contaminated swimming pools.⁷

After 2-3 weeks of incubation, the lesions usually appear as solitary nodules or plaques that may lead to suppurative ulcers.⁶

Infection is usually limited to the skin in healthy individuals, but in immunocompromised patients the infection may disseminate or spread to deeper tissue and bone.

Infection with *M. marinum* in the general population is uncommon, and its epidemiology is distinctive from other NTM species. Because the natural habitat of *M. marinum* is aquatic; it is found in fresh and salt water, including marine organisms, swimming pools, and fish tanks. The organism usually causes cutaneous disease as a consequence of exposure to water, usually in the context of a minor abrasion, laceration, puncture wound, or bite wound.⁸ In a series of 63 cases of *M. marinum* disease from general population in France, 84% were linked to fish tank exposure and the majority of cases the infection was located in hands.⁹

The risk for Nontuberculous Mycobacterial(NTM) infection reported to be high among patient on TNF inhibitor. Winthrop et al.¹⁰ found that NTM infections were reported nearly twice as often as TB (32 versus 17 cases, respectively), in that study; *Mycobacterium avium* complex was the most frequently reported NTM species (in 16 patients), followed by *M. chelonae* (in five patients), *M. abscessus* (in three patients), *M. marinum* (in three patients), and others (in five patients).The investigators did not find any apparent difference between different type of TNF antagonist with regard to the risk of NTM disease.

The case that we are presenting here; did not have any history of exposure to water at the site of his nasal lesion, but he reported trauma at that site after waxing for hair removal; that was done 14 days prior to the development of nasal mass, which might have caused the inoculation of the organism at that site probably through a local exposure to contaminated water or from contaminated waxing material.

CONCLUSION

A high level of suspicion for mycobacterial infection is necessary in patients under anti-TNF-therapy. Education of such patients to prevent any potential exposure to mycobacterium is mandatory in addition to increasing the level of awareness among their treating physicians.

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