کارگاه‌های آموزشی مرکز اطلاعات علمی

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اصول تنظیم قراردادها

آموزش مهارت‌های کاربردی در تدوین و چاپ مقاله
Mycoberacterium 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 acquatic 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
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 temporaril y, 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. 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.

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

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. 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.

The risk for Nontuberculous Mycobacterial(NTM)
infection reported to be high among patient on TNF
inhibitor. Winthrop et al. 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.

REFERENCES

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