Background

* Infection from atypical mycobacterium has been documented as a risk of antitumor necrosis factor alpha (anti-TNF-) therapy.

* Mycobacterium marinum is an atypical mycobacterium usually found in non-chlorinated water. Traumas, such as abrasions and puncture wounds, and subsequent exposure to water seem to play a role in the occurrence of the disease.

* Infection with Mycobacterium marinum has been rarely reported in individuals with ulcerative colitis on anti-TNF- therapy.

* We present a case of M. marinum infection in the setting of U. colitis who is receiving infliximab therapy.

Case Report

A 49-year-old female, who had a history of ulcerative colitis treated with infliximab for 5 years, presented with swelling and redness of her right index finger. The tip of her right index finger was erythematous, swollen, warm to touch, and tender to palpation (Figure 1a). Initially, antibiotics were started for cellulitis, with a poor response. Herpetic whitlow was considered, but antivirals did not help. She did receive a dose of infliximab ten days after symptom onset, but subsequent infusions were held. Her symptoms continued to worsen, with increased swelling and erythema. She later developed multiple nodules in a sporotrichoid pattern (Figure 1b) extending from the forearm to the axilla. She was started on itraconazole for suspected sporotrichosis.

An in depth history revealed that three months prior to presentation, the patient had a small puncture wound on the same finger, due to a cut from a rosemary leaf. Later that day she handled peat moss in her garden. Two weeks later, she cleaned her fish tank, without wearing gloves. Therefore, Nocardia and Mycobacterium were considered. Biopsy of the infected finger demonstrated acid-fast bacilli, (Figure 2b) on ziehl-neelsen stain. Itraconazole was discontinued. Clarithromycin and minocycline were given to cover atypical Mycobacterium. Cultures rapidly grew Mycobacterium marinum (M. marinum). Minocycline had to be discontinued due to drug resistance. She finished a four month course of clarithromycin with complete clearance of the M. marinum infection of her finger.

Discussion

Infliximab, a TNF-alpha inhibitor has a unique therapeutic efficacy in treating inflammatory bowel diseases, but poses the risk of potentially life-threatening infections. These drugs inhibit TNF-alpha which is known to protect against mycobacterial infections.

A literature review shows that there were multiple cases of M.marinum infection reported in patients using TNF-alpha inhibitors in the recent past, among which infliximab was the major culprit. It rarely disseminates, except in the setting of a severely immunosuppressed patient, and usually follows a sporotrichotic (Figure 1b) type of distribution. Skin lesions are usually papules, pustules, or ulcerations (Figure 1a) that change to violaceous plaques over weeks to months. Due to the incubation period of 2 weeks to 4 months, diagnosis is typically delayed 3–4 months. Antibiotics are the main stay of therapy. Anti-TNF-a therapy should be discontinued during the treatment of the infection. After complete treatment of the infection, anti-TNF-a therapy can be reinduced. Antibiotic suppressive therapy is not usually recommended.

Conclusion

* M. marinum infection should be suspected with cutaneous infections in patients on Anti-TNF agents after a minor trauma associated with water contact.

* Generally, the skin infection is curable with no major complications if diagnosed early and the appropriate treatment is initiated. Delayed diagnosis may worsen the clinical course and lead to systemic dissemination.

* Simple precautionary measures such as wearing gloves while working in the garden, cleaning fish tanks or if in contact with domestic and marine animals may help to prevent M. marinum infection, or other opportunistic infections.

References: