Non Tuberculous Mycobacterial soft tissue swelling in an immunocompetent Patient.

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Abstract

The Non Tuberculous Mycobacteria (NTM) include those Mycobacterium species that are not members of the Mycobacterium tuberculosis complex; hence the use of the terms “Non Tuberculous Mycobacteria” and “Mycobacteria other than Tuberculosis.” Although the pathogenic potential of NTM was reported throughout the 20th century, widespread appreciation of the clinical syndromes caused by NTM began during the 1980s in association with the AIDS pandemic and the consequent dramatic increase in disseminated Mycobacterium Avium complex infections. However, the epidemiology of NTM disease in patients without Human Immunocompetent Virus infection remains somewhat difficult to determine. NTM disease is relatively uncommon. We present a case of Non Tuberculous Mycobacterial soft tissue infection, in an immunocompetent 18 year old male.

Case Report(s)

18 year old male patient presented with complain of a swelling in the lower third of right leg associated with pain and tingling numbness since 1 year. No history of fever, trauma or pain during movement. The patient occupation was manual labourer in a local company and immunized with BCG vaccine. Local Examination - soft, non tender, swelling on lateral aspect of right leg, 5 x 4 cm in dimension, no local rise of temperature.

Laboratory investigations:
Complete blood count: Hemoglobin: 13.6 gm%
Total leucocyte count: 5200/cumm

Differential leucocyte count:
• Polymorphs : 70%
• Lymphocytes: 26%
• Eosinophil: 02%
• Monocytes: 02%

Platelet count: 2.3 Lakhs/cumm

Liver Function Test:
Serum Bilirubin:
Total-0.8
Direct-0.5
Serum Alkaline Transaminase: 19 IU/L
Serum Alkaline Phosphatase: 69 IU L

Renal Function Test:
Blood Urea:15 mg%
Serum Creatinine: 0.9 mg%
Urine culture sensitivity: No growth

Blood Sugar Level (Random): 88 mg%

HIV status -Non reactive
HBSAg: Negative
Rheumatoid Factor: Negative
Tuberculin test :Negative

X-ray of right ankle (antero-posterior and lateral): No bony abnormality/injury
Ultrasound - Peripheral Nerve sheath tumor (? Neurofibroma- Most likely),
Fine Needle Aspiration Cytology - Necrotic material with Acid Fast Bacilli suggestive of tubercular etiology,

Magnetic Resonance Imaging – Well defined tubular lesion measuring 1.4 cm (antero-posteriorly)x0.9 cm (transverse) extending over the length of 6.9 cm in subcutaneous plane noted on lateral aspect of the right distal leg without effecting underlying muscles and bones.

Treatment:

Patient underwent surgery under spinal anesthesia in which longitudinal incision was taken over the swelling and removed in toto . Caseous material was found in the swelling. Specimen sent for histopathological examination.

Histopathological Examination - Section showing epithelioid granuloma,caseous necrosis,few langerhans giant cells and lymphocytes. Findings suggestive of tuberculous etiology.

Tissue PCR - Atypical Mycobacteria detected. Mycobacterium TB complex not detected.
Pus for culture sensitivity: No growth. Anti-tubercular therapy was started as histopathological exam revealed tuberculosis and not preoperatively. The patient was started on Category 2 AKT and followed up for six months period. The patient was disease free with no recurrence.

Discussion

We reviewed the epidemiology, clinical features, diagnosis, and treatment of the most common extra pulmonary diseases associated with NTM in Immunocompetent persons. [4-7] More than 120 recognized species of nontuberculous mycobacteria (NTM) share common features: 1) they are facultative pathogens; 2) evidence of human-to-human transmission is lacking; 3) some NTM species are ubiquitous and others have more restricted distribution; 4) treatment may be difficult and vary according to the involved organism and disease site; and 5) pathogenesis is still undefined, depending on the interaction between the microorganism and the host's immune system.[1]

About 90% of cases involve the pulmonary system; the rest involve lymph nodes, skin, soft tissues, and bones. Less frequently reported are central nervous system disease, keratitis, and otitis media.[1, 4]

The rate of NTM disease derived from several studies conducted through the mid 1990s was estimated to be 2 per 100,000 (10)

Conclusion

Although NTM cause a broad spectrum of human disease, Furthermore, nonspecific clinical manifestations, lack of familiarity with these infections, and inadequate laboratory services make definitive diagnosis of NTM diseases often delayed or even impossible. Although extra pulmonary tuberculosis is rare, it should be considered as one of the differential diagnosis in a case of long standing soft tissue swelling of unknown aetiology.

References

Illustrations

Illustration 1

Clinical Presentation

Illustration 2

MRI of leg
Illustration 3

MRI of leg. Well defined tubular lesion measuring 1.4 cm (antero-posteriorly) x 0.9 cm (transverse) extending over the length of 6.9 cm in subcutaneous plane noted on lateral aspect of the right distal leg without affecting underlying muscles and bones.

Illustration 4

Operative Photographs
Illustration 5

Histopathology slide. Section showing Epithelioid granuloma, caseous necrosis, few langerhans giant cells and Lymphocytes. Findings Suggestive of Tuberculous etiology.
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