

Chronic, Non-Healing Ulcer of Foot as
a result of Mycobacterium Tuberculosis
Infection-A Case ReportYadav Rahul¹, Sharma Abhimanyu², Zaman Muzzafar^{3*}, Chowdhary Kunal³, Kaur Gurinder⁴, Shah Aliya⁵, Chowdhary Ashish⁶ and Bawa Ashutosh⁶¹Postgraduate surgery, Maharishi Markandeshwar University, India²Senior Resident pathology, Maharishi Markandeshwar University, India³Assistant Professor of Surgery, Maharishi Markandeshwar University, India⁴Postgraduate anaesthesia, Maharishi Markandeshwar University, India⁵Postgraduate microbiology, Maharishi Markandeshwar University, India⁶Postgraduate surgery, Maharishi Markandeshwar University, India

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Abstract

Background: A middle aged male patient 45 years presented to emergency department with the complaints of non-healing ulcer right foot since 2 years.

Summary: Our patient, a 45 years old male presented with history of non-healing ulcer plantar aspect of right foot since 2 years. Patient had a history of trauma due to a log of wood one month before the development of ulcer, subsequent to which a swelling developed in his foot for which he underwent a surgical debridement and regular dressings at a peripheral health centre, but the wound never healed. Patient was investigated which revealed tuberculous origin of the ulcer. Patient was started with anti-tuberculosis therapy and responded well.

Conclusion: The case report indicated that when an ulcer does not heal in spite of conventional antibiotic therapy and local wound care (chemical and mechanical debridement) for long durations, chronic Tuberculous ulceration needs to be considered in a country where tuberculosis is endemic, or in those either visiting or migrating from such a region.

Case Description

Skin ulcers take a considerable length of time to heal. The restrictions to the patients' mobility, social interactions, and their ability to work result in feelings of helplessness and depression [1]. Today, tuberculosis kills more people than any other infectious disease worldwide and a global epidemic is currently in progress. Mycobacteria cause slowly developing chronic cutaneous infections not responding to conventional antibiotics and wound care. It is important to consider mycobacterial infection in any resistant and atypical dermatological problem, particularly in immunocompromised individuals [2]. Mycobacterial infection is increasing, partly due to emerging drug resistance and the HIV epidemic [3].

Patient 45yrs/Male chronic smoker presented to the emergency department with a non-healing ulcer of right foot since 2 years. He was illiterate, from a low socioeconomic background and was a resident of a village in Northern, India. There is no significant past, family and drug history except for a trivial trauma same foot a month back due to log of wood.

On initial examination, patient was haemodynamically stable and afebrile. Local examination of right foot showed a 10x6 cms sized, irregularly shaped, ulcerated lesion with punched out and indurated edges. There was slough and dead necrotic tissue with patches of crusts and pink granulating areas over the surface of ulcer with firm base. There was no discharge from ulcer and surrounding skin was hyperpigmented and indurated (Figures 1 & 2).

His investigations showed an Hb value of 9.8gm%, ESR of 135 mm at first hour and a total leucocytes count of 12.6 culture sensitivity of wound revealed no growth 48hrs after incubation. X-rays right foot antero-posterior and lateral view showed no bony involvement and his Doppler ultrasound venous and arterial was showing no abnormality in blood flow to lower limbs.

Suspicion of chronic granulomatous disease especially tuberculosis was made and biopsy was sent from the wound histopathological report from pathologist showed multiple epithelioid cell granulomas with many Langhans giant cells present in the dermis foci of necrosis were also seen in Figures 3 & 4. Ziehl-Neelsen stain shows large number of acid fast bacilli. Figure 5 shows a Langhans type giant cell with ingested mycobacteria, surrounded by foci of caseous necrosis.



Figure 1: Non healing ulcer plantar aspect of right foot with lateral extension.



Figure 2: Non healing ulcer right foot with medial extension surface has slough and dead necrotic material with hyperpigmented surrounding skin.

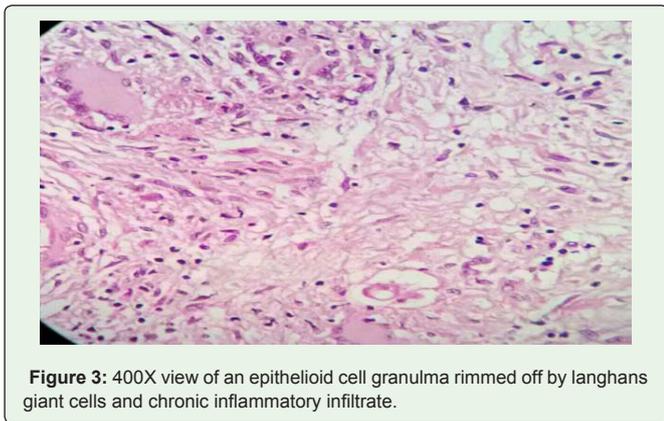


Figure 3: 400X view of an epithelioid cell granuloma rimmed off by Langhans giant cells and chronic inflammatory infiltrate.

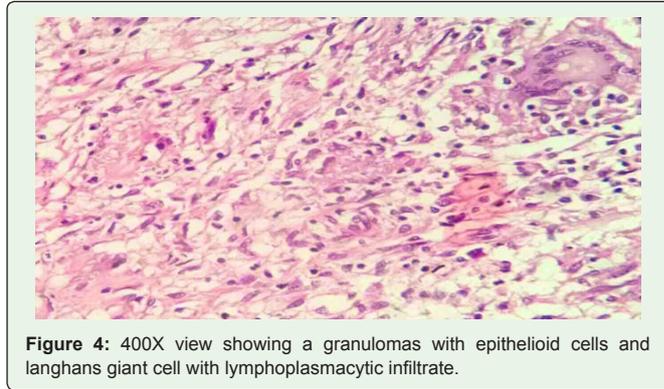


Figure 4: 400X view showing a granulomas with epithelioid cells and Langhans giant cell with lymphoplasmacytic infiltrate.

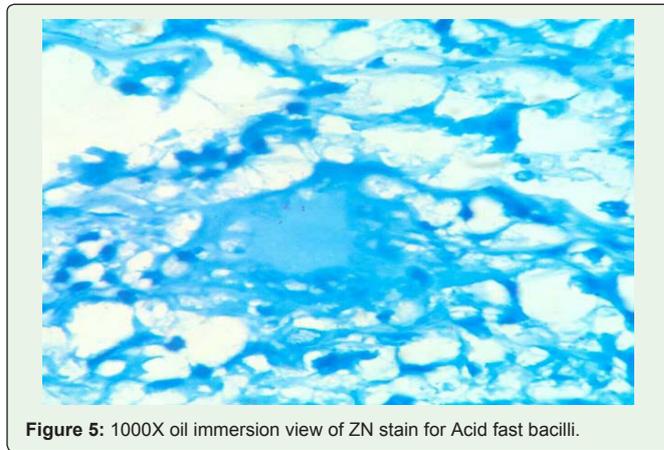


Figure 5: 1000X oil immersion view of ZN stain for Acid fast bacilli.



Figure 6: Picture showing healed ulcer 6 months after Anti Tubercular therapy.

After the confirmation of diagnosis he was started on anti tuberculosis therapy all the lesions got resolved and patient showed a dramatic improvement (Figure 6).

Discussion

Tuberculosis of the foot is very uncommon and is detected in late stage [4] as seen in our case Chronic discharging sinus and non healing ulcer can be one of the complications of this disease . Cutaneous Tuberculosis (TB) comprises only a small proportion (<2%) of all

cases of TB with the highest incidence being encountered in resource poor countries [5]. Cutaneous manifestations can occur in the form of miliary tuberculosis in relatively immunocompromised hosts, lupus vulgaris in immunocompetent hosts, or gummas, which are cold abscesses that are initially latent, then reactivate under various immunosuppression conditions. Since there is a lack of awareness about such an uncommon entity and it frequently mimics other conditions such as Madura foot, chronic pyogenic infection, Kaposi’s sarcoma, bone tumours and other inflammatory and neoplastic processes of the synovium, diagnosis is often delayed.

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Conclusion

Although rarely seen tuberculosis of foot causing a chronic indurated non healing ulcer is known in cases of ulcers which are resistant to conventional antibiotic therapy and should be always suspected in such cases especially in areas where tuberculosis is endemic.

Lessons Learned

Tuberculous foot ulcers in particular are very difficult to treat as usually there is a diagnostic delay and the condition requires prolonged and adequate antitubercular therapy. Strong clinical suspicion is required to diagnose this condition to avoid unnecessary investigations and irrational prolonged use of conventional antibiotics.

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