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J C N JOURNAL OF CLINICAL NEPHROLOGY
ISSN 2576-9529

Case Report

Dermatophyte Abscess in a Renal Transplant Patient by Trichophyton Rubrum - A Case Report

Swati Tewari[1]*, Sandeep Garg[2], Shweta Garg[3] and Alok Kumar[4]

[1]Professor, Department of Microbiology, NCR Medical College and Hospital, Nalpur, Meerut, India

[2]Nephrology, Nutema Hospital, Meerut, India

[3]Pathology, Nutema Hospital, Meerut, India

[4]Assistant Professor, Department of Microbiology, NCR Medical College and Hospital, Nalpur, Meerut, India

More Information

***Address for correspondence:**
Dr. Swati Tewari, MD, HOD and Professor, Department of Microbiology, NCR Medical College and Hospital, Nalpur, Meerut, India, Email: drswatitewari@gmail.com

Submitted: June 23, 2025
Approved: June 25, 2025
Published: June 26, 2025

How to cite this article: Tewari S, Garg S, Garg S, Kumar A. Dermatophyte Abscess in a Renal Transplant Patient by Trichophyton Rubrum - A Case Report. J Clini Nephrol. 2025; 9(6): 068-069. Available from: https://dx.doi.org/10.29328/journal.jcn.1001158

Case report

A 33-year-old male came to the medicine outpatient department OPD with a subcutaneous nodule on backside of his left upper arm. He had a history of renal transplant one and a half years back and was on triple immunosuppressive drugs, prednisolone, Tacrolimus, and Mycophenolate mofetil. On examination, the swelling was about 4x6 cm in size, was mildly tender, soft to firm, and fluctuant on palpation. The patient was sent for routine investigation and Fine Needle Aspiration Cytology. On fine needle aspiration cytology, FNAC pus was aspirated, on microscopy, a few branched septate fungal hyphae with foreign body giant cells were seen. The patient's surgery was planned, and complete excision of the abscess was done. Pus was sent for potassium hydroxide KOH mount, bacterial and fungal culture. Tissue was sent for histopathological examination.

On a 10% KOH mount, thin septate fungal hyphae are seen. On bacterial culture, there was no growth after 48 hours of incubation at 37 °C. Fungal culture was done on Sabouraud's dextrose agar, but there was no growth after 7 days of incubation. After 10 - 15 days of incubation at 250 °C, white cottony growth was seen on the obverse side, and the reverse side, red maroon pigmentation was seen. Microscopy of growth on lactophenol cotton blue mount showed thin septate hyphae with tear-shaped microconidia. Based on macroscopic and microscopic features organism was found to be Trichophyton rubrum.

On Histopathological examination of sections, periodic acid schiff PAS positive, fragmented fungal hyphae were seen with granulomatous inflammation.

Postoperatively, along with anti-inflammatory and antibiotic cover, antifungal voriconazole was given. Antifungal treatment was followed for 1month. No recurrence has been reported till now.

Discussion

Trichophyton is a dermatophyte fungus, which is mainly responsible for infections of keratinized tissue, nail, hair follicle, and superficial skin [1,2]. Deeper infections like abscess or disseminated infection to internal organs, like lymph nodes, brain, liver, muscle and bone, occur very rarely. This is usually reported in immunocompromised individuals like human immunodeficiency virus-infected or transplant patients [3-5]. In this study, we describe a case of dermatophyte abscesses caused by Trichophyton rubrum in a renal transplant patient without any pre-existing superficial dermatophytosis.

Frédéric Toussaint et al have also reported a case of multiple dermatophytic abscesses in an immunocompromised patient [6]. Si-Hyun Kim, et al. reported a rare case of dermatophyte abscesses caused by T. rubrum in an immunocompromised patient without pre-existing superficial dermatophytosis [7]. Although many of the articles reported itraconazole or terbinafine as treatment, as reported by Kershenovich, et al. [8] but in our case, we used voriconazole, which is better. Liu, et al. also used voriconazole for treatment [9].

Conclusion

This is a rare case of deep dermatophyte infection

as an abscess caused by Trichophyton rubrum in an immunocompromised patient without pre-existing superficial dermatophytosis. Our case report is to make clinicians aware that even without any superficial dermatophytosis lesion, fungi should be considered as a cause of deep soft tissue abscesses in immunocompromised patients. So, the bacterial as well as fungal culture should be done in these patients.

Acknowledgment: To all supporting staff.

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