Rare case of Isolated Aspergillus Osteomyelitis of Toe: Presentation and Management

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What to Learn from this Article?

Rare case of fungal osteomyelitis of terminal phalanx of second toe?
Presentation and management of isolated fungal osteomyelitis?

Abstract

Introduction: Fungal osteomyelitis is an uncommon diseases and generally present in an indolent fashion. Isolated bone affection due to fungi are rare and we present one such case with fungal osteomyelitis of terminal phalanx of second toe.

Case Report: We present a rare case of fungal osteomyelitis of right second toe in a 30 year old Indian female who presented with swelling of 8 months duration. Diagnosis was based on the histo-pathological report and culture showing Aspergillus growth. The patient was treated with surgical debridement and amphotericin-B was given for 6 weeks after debridement. There was no recurrence one year post surgery.

Conclusion: Isolated Aspergillus osteomyelitis of the bone are very rare and mostly seen in immunocompromised patients and larger bones like spine, femur and tibia. Treatment with wound debridement and subsequently followed up with a course of Amphotericin-B for 6 weeks provided good results. There was no recurrence noted at 1 year follow up. Fungi should be kept in mind for differential diagnosis of osteomyelitis and culture should be appropriately ordered.

Keywords: Fungal osteomyelitis, Aspergillus osteomyelitis, terminal phalanx osteomyelitis

Introduction

Fungal osteomyelitis is a rare disease and generally present in an indolent fashion [1-4]. Incidence of fungal infection has been on rise with immunodeficiency diseases and invasive surgical procedures [5-7]. It is rare to find an isolated fungal bone affection in a immunocompetent person without any obvious predisposing factors. We report one such rare case with isolated affection of terminal phalanx of the second toe.

Case Report

A 30 year old female presented with swelling of right second toe for the past 8 months following direct trauma to the right foot when she hit a wooden door (Fig.1). Patient complained of persistent pain since the time of trauma. She consulted local doctors and was given pain medication but the symptoms did not subside. When she presented to us there was swelling of the toe with moderate tenderness and bogginess around the nail bed. There was no history of drug abuse or intake of immunosupressive drugs. No constitutional symptoms like fever, cough or chest pain were present. Radiographs of right foot was taken which showed irregular margins, lytic and sclerotic edges of the

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Journal of Orthopaedic Case Reports | pISSN 2250-0685 | eISSN 2321-3817 | Available on www.jocr.co.in | doi:10.13107/jocr.2250-0685.098

Figure 1: Clinical photograph showing swelling of the second toe

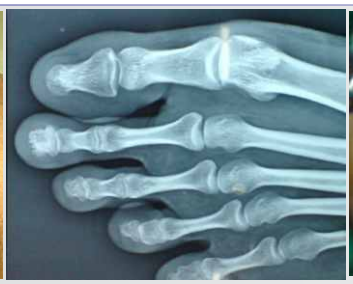

Figure 2: Radiograph showing irregular margins and scerotic lesion with lytic areas

Figure 3: Fish mouth incision used to expose the lesion

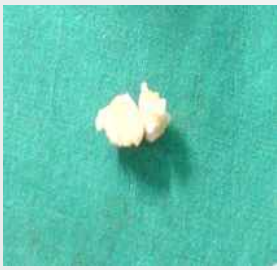

Figure 4: Excised terminal phalanx

terminal end of distal phalanx of 2nd toe (Fig. 2). Routine blood investigations were within normal limits with a slightly elevated ESR (35mm/hr). A preliminary diagnosis of chronic osteomyelitis was made and decision for excision biopsy was taken. Under local anesthesia a fish mouth incision was taken (Fig. 3). Distal phalanx was found to be completely involved and a decision to excise the whole distal phalanx was taken. The excised bone was sent as a specimen (Fig.4) for the histo-pathological examination. Bacterial culture was negative but histology showed that bone contained fungal hyphae and subsequently the bone culture showed growth of Aspergillus. Treatment was started with Amphotericin-B according to her body weight for 6 weeks. Patient started to walk normally within 1 month and complained of no pain. There was no evidence of fungal infection elsewhere on examination. The patient was followed regularly at 1 month, 3 months, 6 months and one year and no signs of recurrence was noted.

Discussion

Fungii such as Aspergillus are known to be ubiquitus in nature and are the common commensals of the respiratory tract. In patient with immunosupression, these organisms multiply and cause widespread infection involving respiratory system and sometimes even skeletal system. There have been published accounts of fungal osteomylitis in literature but Aspergillus osteomyelitis is infrequently reported [3,7-12]. Fungi infections are common in cases of polytrauma where multiple surgeries cause a break in the natural barriers of skin and mucous membrane and compromises the patients immune system [5,6,13]. In such cases Staphylococcus aureus is the most common cause of osteomyelitis and the long bone metaphysis is the most common localization of osteomyelitis. However, fungi,anaerobes etc. are rare factors and foot bones are rare localitazition [14,15]. İn our case, the region and factor were both unusual.

Cases of fungal osteomylities in literature that were reviewed showed that surgery with systemic antifungals had a lower recurrence and higher success rate as compared to those that were treated with antimycotics alone, which may be due to the fact that penetration of most drugs into the bone tissue is low [9,10]. We treated our patient with surgical debridement along with Amphotericin-B with good results.

Conclusion

This is a rare case of Apsergillus osteomyelitis affecting the terminal phalanx of the toe. Diagnosis was confirmed only after culture and antifungal therapy lead to good results.

Clinical Message

Sclero-lytic lesion with suspicion of chronic osteomyelitis can be fungal in origin even in immunocompetent host. This needs to be kept in differential diagnosis and also while sending cultures for such lesions

Acknowledgment: The Authors will like to acknowledge the Manuscript Assist & Publishing Service (MAPS) of Indian Orthopaedic Research Group for help in improving the manuscript content

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Conflict of Interest: Nil
Source of Support: None

How to Cite this Article:
Pattanashetty OB, Dayanand BB, Bhavi SB, Bami M. Rare case of Isolated Aspergillus osteomyelitis of toe: Presentation and Management. Journal of Orthopaedic Case Reports 2013 April-June;3(2): 29-31