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Cutaneous Aspergillosis in an immunocompetent patient

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Abstract
Cutaneous Aspergillosis is an uncommon manifestation of aspergillus infection in humans. When occurs, it is mostly seen in immunocompromised hosts as an opportunistic infection. Cutaneous Aspergillosis is extremely rare in immunocompetent persons. Here we are presenting a case of cutaneous Aspergillosis in an immunocompetent young male as a Figure presentation because being a very uncommon disease entity, it deserves reporting to the medical literature.

Keywords: cutaneous aspergillosis, cutaneous aspergillosis in immunocompetent, aspergillosis

Introduction

Case Report

A young male of 28 years age, farmer by occupation presented to medicine outdoor of Guru Nanak Dev Hospital, Amritsar with chief complaint of fever for 10 days. Fever was of high grade, remittent type and associated with chills. On physical examination, patient was febrile at presentation with oral temperature of 101.5^0F, pulse rate of 80 beats/min and BP 116/70 mmHg. There was mild jaundice with soft hepatomegaly, liver palpable about one and half finger below the coastal margin. During examination of abdomen, the notable finding was of a plaque lesion with black top of size 7cm x 3cm on epigastric region of abdomen just left lateral to the midline (Fig 1 & 2). There was a similar satellite lesion on left superolateral aspect of main lesion of size about 1x1cm with black centre. Patient did not complain about the lesion, so it was like an incidental finding.

On close enquiry, it was found that the skin lesion had been present for more than one year. It had increased in size over the time. Initially the lesion was indurated, reddish nodule which progressed to present plaque like lesion. The There was no history of taking steroids or other immunosuppressive drugs, organ or bone marrow transplant. There was no significant finding on systemic examination. The biopsy specimens were taken for culture and histopathology. The results revealed a significant growth of aspergillus species and the histological features confirmed invasive Aspergillosis. He was detected to be plasmodium vivax positive in smears. Other investigations, including a chest x-ray, abdominal ultrasound scan, fasting blood sugar, and Mantoux test were all unremarkable. Human immunodeficiency virus *(HIV)* screening was negative, PCV was 28%, and ESR 50 mm/hour. A diagnosis of vivax malaria and primary cutaneous aspergillus infection was made.

The patient was put on anti- malarials plus itraconazole, 200mg twice a day. He responded well to the anti-malarial treatment and turned afebrile after 2 days. For PCA, Plastic surgery opinion after a course of itraconazole for atleast two weeks was planned, but sadly the patient was lost to attrition, a common thing in developing countries where many belief-systems and "desi" treatment-plans still appeal to not only poor illiterate folks, but to well-to-do people also.

Discussion

Primary Cutaneous Aspergillosis (PCA) is a rare disease which is mostly seen in immunosuppressed patients. It is extremely rare in immunocompetent patients where it poses a diagnostic challenge [1]. Cutaneous Aspergillosis is of two types: primary or secondary. Secondary cutaneous Aspergillosis which results from disseminated Aspergillosis, either through direct spread from underlying lesion, or through hematogenous seeding from distant lesions. Cutaneous lesions are termed PCA when they result from direct inoculation of the aspergillus species. It can occur from trauma, especially in patients on catheter, trauma from an arm board, burns, contaminated dressings, and cases have been reported in the neonatal Intensive Care Units (ICU) from aerosolization of fungi during building renovation. Other predisposing factors include prematurity in neonates, use of steroids and other immunosuppressive drugs. The maceration of skin due to exposure to a warm moist environment for prolonged periods, which when associated with high aspergillus spores in environment can be the cause of PCA. The organism is abundant in the environment, the common sources are decaying vegetation, stored grains, and soil. This mechanism is well known to cause Aspergillosis in persons doing physical labor in agri-fields, and this appears to the mechanism in our patient too [2, 3, 4].

Although over 350 species of aspergillus exist, over 90% of human infection is by *Aspergillus fumigates*. A. fumigates is typically causative agent for systemic infection involving the lungs, blood, and sinuses. Cutaneous Aspergillosis is mostly

caused by *A. flavus* and *A. fumigatus* and rarely by *A. niger*, *A. terreus*, *A. ustus*, and *A. chevalieri* [4, 5]. Primary Cutaneous Aspergillosis may present as erythematous, indurated macules, papules, Plaque or hemorrhagic bullae, which may progress to necrotic ulcers that are covered by black eschar. Nodules and pustular lesions although rare might also occur.

Treatment for Aspergillosis is systemic drug therapy with antifungal drugs like amphotericin B and Itraconazole.[6] Amphotericin B is not preferred now because of cumbersome administration, side effect profile and more importantly, rise of resistant to this drug [7]. Ketoconazole can also be used, and Voriconazole has also been added to the treatment options [5]. Treatment of primary cutaneous fungal infection is controversial, both medical and surgical modalities have been undertaken. However, in the cutaneous disease, surgical excision alone and in some cases in combination with drug therapy has been found to be curative. Making an early diagnosis of PCA in an immunocompetent patient needs strong suspicion but once diagnosed can be adequately treated with appropriate treatment with new antifungal drug. Careful considerations of adjunctive surgical therapy should improve the outcome in such patients [6].

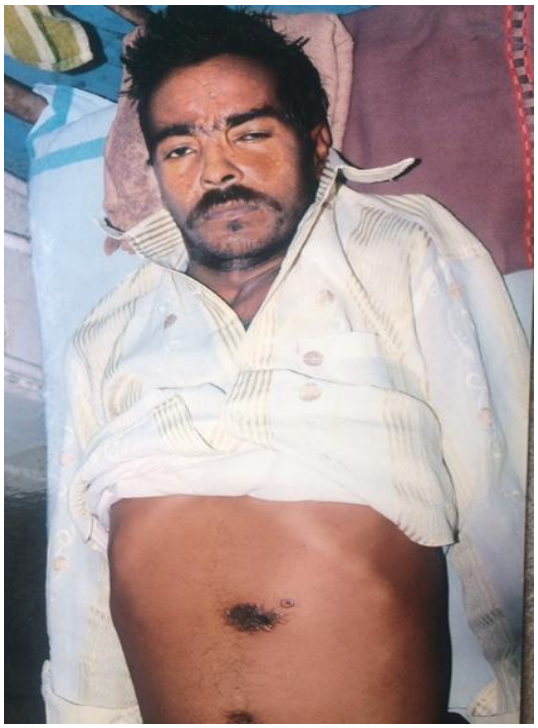

Fig 1

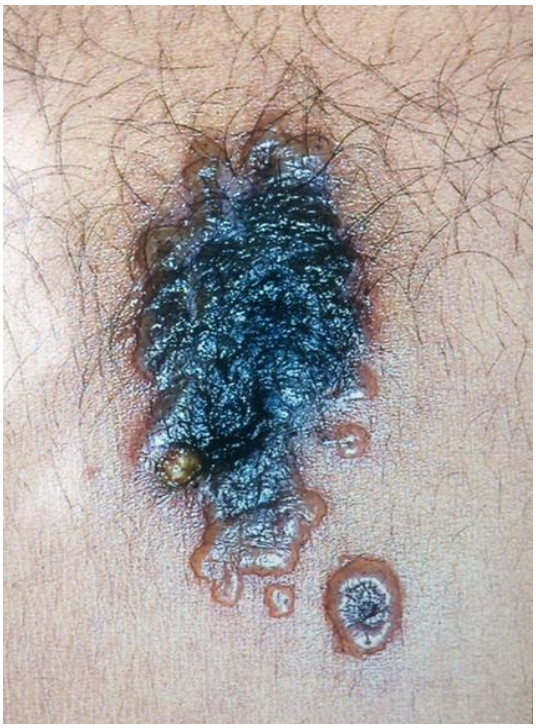

Fig 2

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