

Cryptococcus neoformans Causing Thoracic Wall Abscess in HIV Negative Patient- A Case Report

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Abstract

Cryptococcus neoformans is an encapsulated yeast responsible for meningitis in immunocompromised hosts. Primary Cutaneous Cryptococcosis (PCC) is an uncommon clinical entity, characterised by direct skin inoculation without systemic involvement. A history of skin injury, exposure to bird droppings and absence of dissemination can be included as the evidence of PCC¹. We report a case of PCC in HIV negative patient who developed abscess at the site of trauma. Cryptococcus neoformans was isolated from the abscess & no underlying disorder could be detected. The patient improved with oral Fluconazole.

KEYWORDS: Cryptococcus neoformans, PCC, Immunocompetent.

INTRODUCTION

Cryptococcus neoformans is an encapsulated yeast present in the environment and has been isolated from avian excreta especially pigeon droppings contaminating the soil². It is responsible for meningitis in immunocompromised hosts³. Skin lesions due to Cryptococcus neoformans are found in approximately 5% of the patients with Cryptococcus meningitis & are due to haematogenous dissemination³. The presence of cutaneous lesions may be an early marker of disseminated disease. However, PCC has been seen to occur in immunocompetent as well as immunocompromised individuals^{4,5}. We report a case of PCC in an immunocompetent male admitted in our hospital.

CASE REPORT

A 40 year male patient living in a rural area was admitted in our hospital, with complaints of pain & swelling on lower part of the thorax since a week. He had fever, cough with expectoration since a week.. He gave history of trauma on the chest wall one month back. He was a Pigeon keeper.

On physical examination, tender swelling was observed on right 10th & 11th rib extending posteriorly. Findings of biochemical evaluation, Haemogram & urine routine were normal. Test for anti HIV antibodies was negative. Sputum examination for AFB, Pyogenic & fungal culture were negative. Abscess was drained & Pus was sent to the laboratory for culture & sensitivity. Gram stain of the pus revealed Gram positive budding yeast cells. India ink stain of the specimen revealed 4-7 μ capsulated budding yeast cells. Culture of the pus on Sabourauds Dextrose agar showed creamy, mucoid, shiny white colonies after 48 hours incubation at 25^o C & 37^o C. Culture on Blood agar showed translucent moist colonies. There was no growth on MacConkey agar. The yeast was identified as Cryptococcus neoformans by growth at 37^o C & Urease production. The patient was treated with oral Fluconazole.

Discussion

PCC is a rare occurrence, as skin lesions are generally accompanied by systemic infection. Quereux G et. al. reported PCC in patients who had trauma before the lesion appeared; which was due to direct inoculation of the organism into site of injury or trauma⁶. Our patient also gave history of trauma before the development of abscess. *Cryptococcus neoformans* usually infects HIV positive patients. Bellosta M.et. al. reported PCC in HIV negative patient⁷. In the present case the patient was HIV negative. The risk factors include exposure to pigeons^{8,9}. The same risk factor may be relevant in this case as the patient was pigeon keeper.

Clinically PCC may present as abscesses, solitary nodules & cellulitis¹⁰. In our case *Cryptococcus neoformans* was isolated from abscess on the thoracic wall. High index of suspicion is mandatory as Cryptococcal skin involvement is nonspecific & the lesions are most commonly confused with bacterial cellulitis & are erroneously treated with antibacterial agents. In this case, the patient was initially treated with antibiotics & then with oral Fluconazole once PCC was diagnosed.

Main route of infection for *Cryptococcus neoformans* is respiratory tract. However, skin can serve as an additional portal of entry for the yeast. PCC is a distinct clinical entity. Hence clinicians should maintain a high index of suspicion while treating skin lesions that do not respond to antibiotics even in apparently healthy persons.

To conclude, once PCC is diagnosed, an evaluation of the patient's immune status & other systemic involvement must be carried out. All patients with skin lesions should be monitored carefully for possible dissemination to Central Nervous System.

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