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PRIMARY CUTANEOUS ASPERGILLOSIS IN ACUTE MYELOID LEUKEMIA PATIENT: A CASE REPORT

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ABSTRACT

Primary cutaneous aspergillosis in immunocompromised patients is rare. We present 60 years old man with primary cutaneous aspergillosis after receiving induction chemotherapy for acute myeloid leukemia. Diagnosis was based on microbiological culture and histological examination of necrotic tissue isolated from the lesion. This infection was cured after short course therapy with amphotericin B.

KEYWORDS: Aspergillosis, Cutaneous, Acute myeloid leukemia.

INTRODUCTION

Cutaneous aspergillus species have emerged as important causes of morbidity and mortality in immunocompromised patients. Cutaneous aspergillosis occurs relatively less frequent than pulmonary aspergillosis and therefore remains poorly characterized.[1-4]

Cutaneous aspergillosis has been described either primary or secondary infection. Primary cutaneous aspergillosis usually involves sites of skin injury, intravenous access catheter sites, sites of traumatic inoculation, and at sites associated with occlusive dressings, burns, or surgery.[5-9] In secondary Cutaneous aspergillosis, the lesions occur due to haematogenous dissemination from primary focus such as the lungs or to contiguous spread to the skin from underlying infected structures.[4, 10-12]

CASE REPORT

A 60-year-old male with acute myeloid leukemia M2 received induction chemotherapy with daunorubicin 60 mg/m^2 (D1-D3) cytoarabine 100mg/m^2 (D1-D7). On day +7 post chemotherapy a round warm black swelling resembling a small furuncle appeared on the neck. This lesion grew rapidly and was painful. One week later this lesion became 1.5 cm erythematous indurated plaque with a central area of necrosis (Figure 1). Until that time microbiological examination of multiple blood cultures had yielded no positive result. On day +21necrotic tissue from the lesion was sent for microbiological culture and histological examination. Cytopathology evaluation revealed necrotic material with multiple fungal growth consisting of septate hyphae branching at about 45 degrees, characteristic of aspergillus species (figures 2-7). The dose of amphotericin B was started with 1 mg/kg/day i.v., after14 days of treatment lesion was completely healed with epithelization (figure 1).

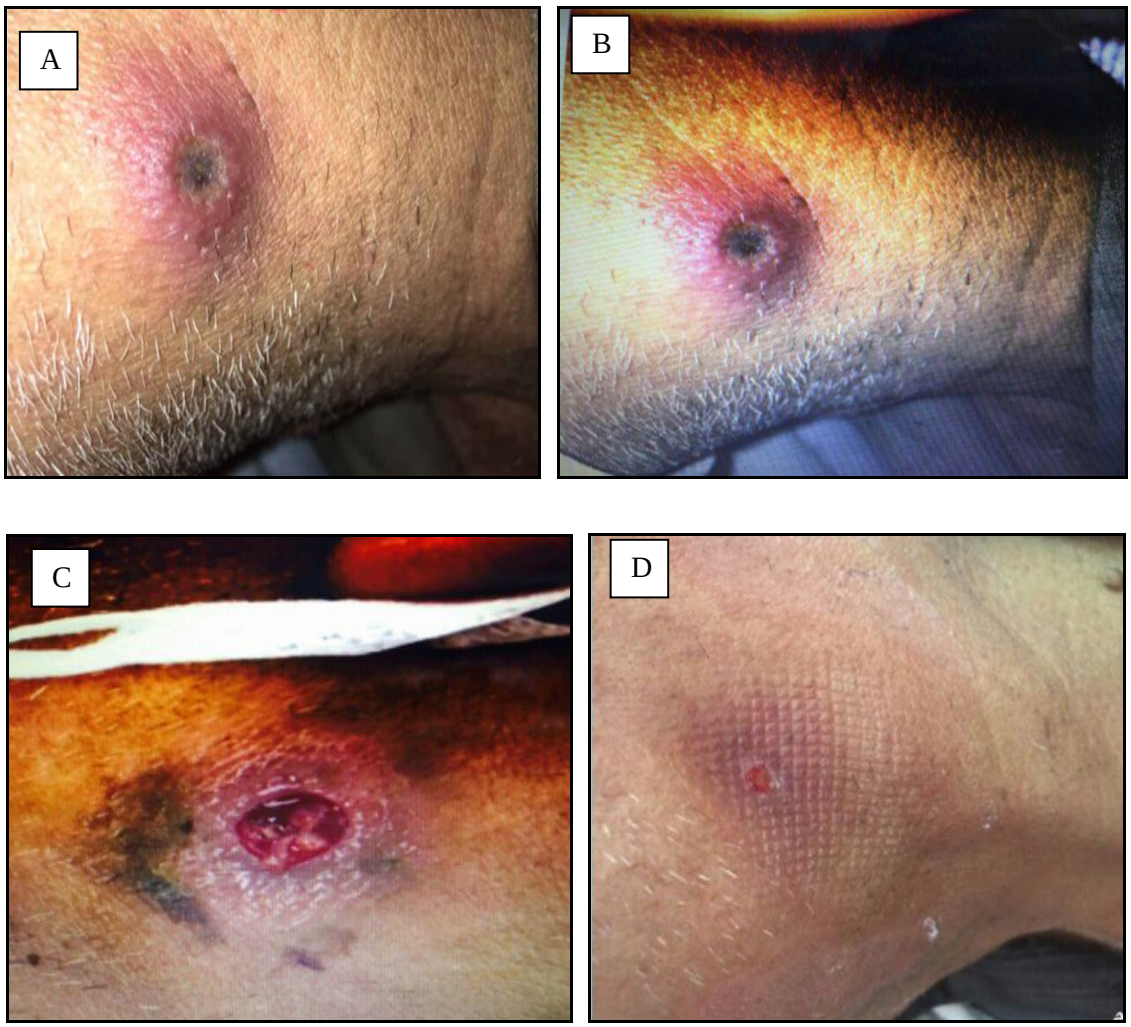

Figure 1: Cutaneous aspergillus in neck (A)& (B) At day +14 post chemotherapy (C) Lesion at day +21 post chemotherapy (D) Lesion After 14 days of amphotericin B.

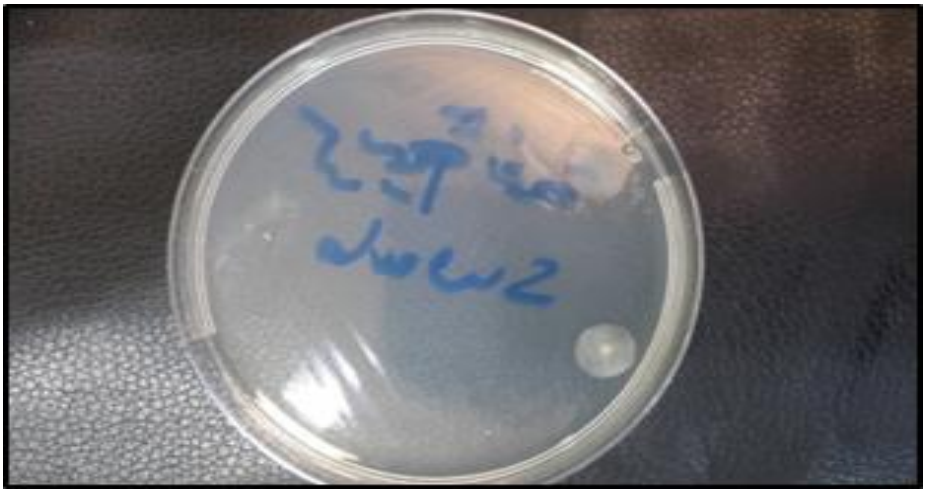

Figure 2: Fungal growth plate with well-defined aspergillus growth colonies.

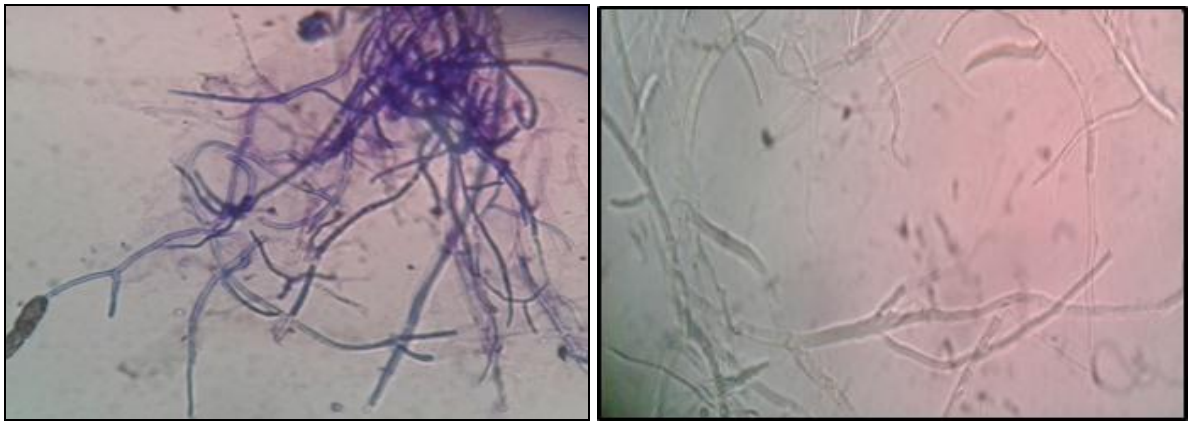

Figure 3: Hematoxilin & Eosin stain (x200).

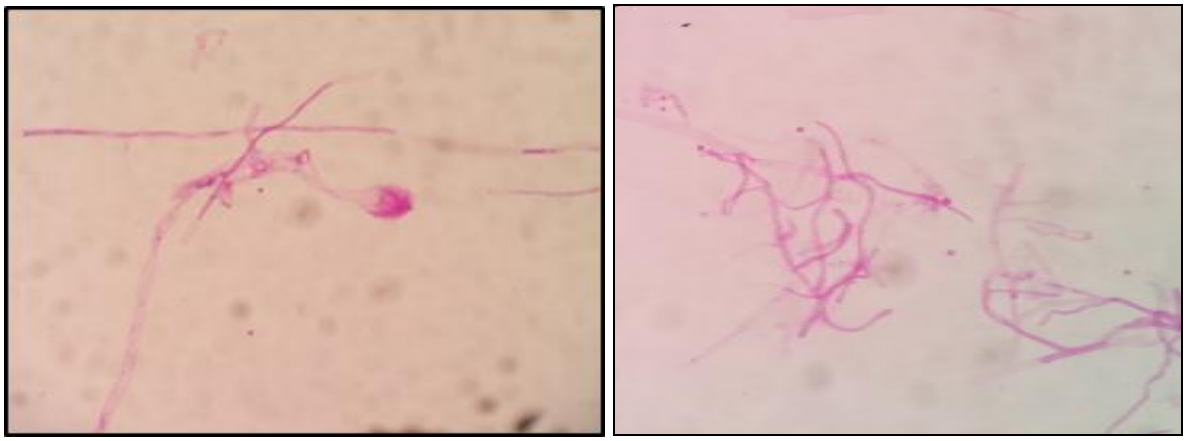

Figure 5: Periodic acid-Schiff stain (PAS) stain (x200).

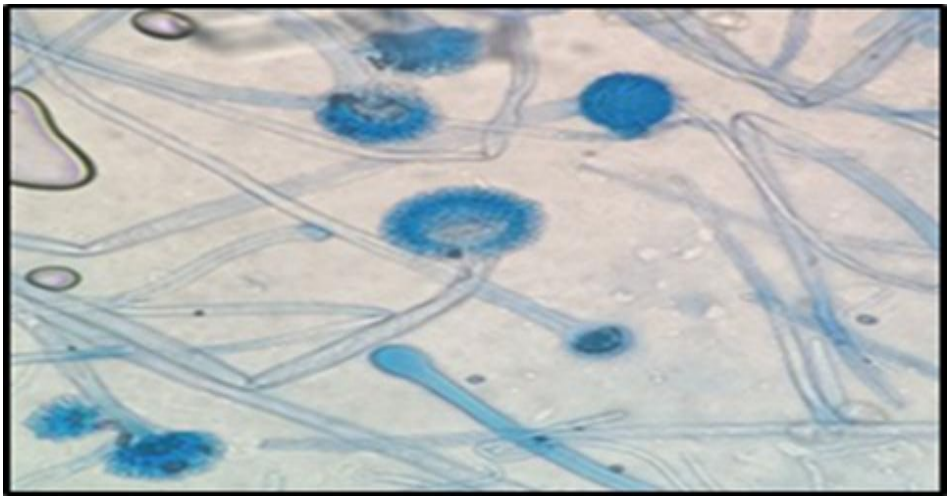

Figure 6: Uniseriate conidial heads of aspergillus, gram stain (x400).

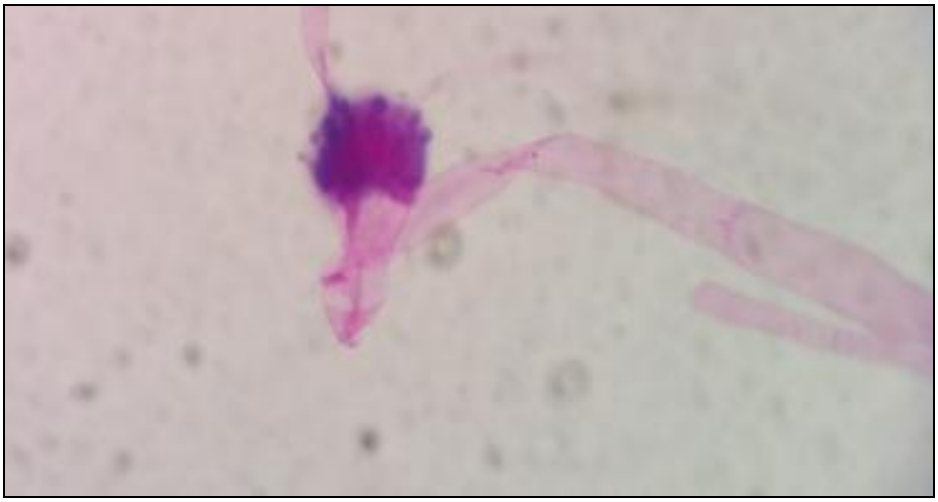

Figure 7: Uniseriate conidial heads of aspergillus (PAS stain X400).

DISCUSSION

Reports of primary cutaneous aspergillosis are rare but the number increased since 1970s as result of the ever increasing spectrum of immunocompromised. Initially the disease is reported in neonates, burn cases, patient under goes intensive chemotherapy, organ transplant recipient and HIV patients.[13-17]

After Candida albicans, the aspergillus species is the most common cause of human opportunistic fungal infection. The organism is abundant in the environment; the common sources are decaying vegetation, stored grains, and soil.[18-21] Our patient causative organism was aspergillus flavus which with aspergillus terreus, niger and utus represent the most common cause of primary cutaneous aspergillus.[1, 20-23]

The occurrence of varying clinical manifestations of fungal diseases has been demonstrated in patients with altered host defenses. In our patient lesion begun as small furuncle and develop to erythematous indurated plaque with a central area of necrosis. Review of literature showed that initial lesions of 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, although nodules and pustular lesions rare but may also occured.[4,20, 21, 23]

Systemic voriconazole recommended as primary therapy. Alternative agents include L-AMB, posaconazole, itraconazole, or an echinocandin.[24] Because of intravenous voriconazole not available in our center amphotericin B with 1 mg/kg/day i.v. was used and then patient kept on oral voriconazole 200mg twice daily for 3 months. Patient completed maintenance treatment with high dose cytoarabine. Seven months later patient died because of disease recurrence and concomitant infection.

CONCLUSION

Primary cutaneous aspergillosis is a rare disease and poorly recognized entity among immunosuppressed patients. Early recognition andsystemic therapy withanti-fungal drugs will improve the outcome in patients by reducing the chances of systemic dissemination and achieving a cure.

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