

Rhinocerebral Orbital Mucormycosis: A Case Report

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ABSTRACT

Introduction: Fungal infection of the nose, eyes and brain is increasingly recognized entity in both normal and immuno compromised individuals. Recently there is increase in the fungal infections due to improved diagnostic research methods and increase in the conditions that favour the mycotic infections This case report of rhinocerebral orbital mucormycosis in an immuno compromised female alerted us the necessity of early detection and diagnosis of immuno compromised conditions.

Case Report: A 14 year old female brought to the casualty of MGM Hospital, Warangal in unconscious state, with skin lesions on nose and extending to both cheeks. Clinically the lesion can be seen in various forms of gangrenous crusts. The attendants of the patients reveals the history that she is a school going child suffering from fever since 3 days and she is not a known diabetic nor suffering from any other chronic disease. Laboratory investigation reveals moderate anemia with blood sugar levels of 300 mg/dl and urine sugar of +++.

Skin scrapings and swab from the lesion reveals fungal hyphae in 10% KOH preparation and growth from sabouraud's dextrose agar with lactophenol cotton blue preparation showed tangled hyphae with large sporangiophores and Rhizoids are absent. In spite of the treatment with all broad spectrum antibiotics patient succumbed to death within 10 days of admission.

Conclusion: Undiagnosed juvenile diabetes with opportunistic infections are dangerous and will increase morbidity and mortality.

Keywords: Rhino cerebral orbital mucor mycosis, opportunistic infections, immuno compromised condition.

INTRODUCTION

Rhino cerebral orbital mucormycosis is an opportunistic fungal infection characterized by inflammation of skin, mucosa of nose, eyes and brain tissue. Recently there is increase in the incidence of mucormycosis and other opportunistic infections.^{1,2} They affect the quality of life and considerable increase in the morbidity and mortality.³ Mucormycosis affects all ages from infants to old age. The five species of mucormycosis will produce various clinical presentations like fulminating lesions of orbital, nasal and cerebral tissues and massive invasion of various blood vessels.⁴ Some species cause leukemias, sarcomas and indolent skin ulcers

It represents with clinical pathological forms with distinct diagnostic criteria, treatment and prognosis. We are reporting a rare case of rhino cerebral orbital mucormycosis, in a case of unknown juvenile diabetes detected only after admission in unconscious state.

CASE REPORT

A 14 yrs old female brought to casualty of MGM Hospital, Warangal in unconscious state, with skin lesions on nose and extending to both cheeks (Figure-1). After eliciting the history from attendants came to know that she is a school going child suffering from fever since 3 days and suddenly became

unconscious in the school, non vegetarian, not a known diabetic and not suffering from any chronic disease. None of her family members were suffering from any sort of fungal infections. There is no H/O pulmonary tuberculosis or any intake of drugs. On general estimation, no anemia, clubbing, pallor, cyanosis or any lymphadenopathy. On examination there is a big cutaneous lesion on nose in various forms like macular forms to gangrenous forms. Laboratory investigations reveals Hb 9% gms, BT-3 min 2 sec, CT-4 min 2 sec, Blood sugar-300 mg/dl, Blood urea and serum creatinine were found normal. Complete urine examination after catheterization reveals +++ sugar in the urine, HbsAg- Negative and HIV-Non Reactive.

We have collected the skin scrapings on bed side in 10 % KOH and the culture was done with nasopharyngeal swabs and another swab from skin lesions, on sabouraud dextrose agar (SDA) with antibiotics and without cyclo heximide. Fungal elements like hyphae and spores were seen in KOH preparation cottony and candy like gray to dull yellow growth seen on sabourauds dextrose agar after 24 hours (Figure-2). Lactophenol cotton blue (LPCB) preparation showed tangled hyphae with long sporangiophores with large and Spherical sporangia of thin walls. Rhizoids were absent (Figure-3).

Though the patient was given insulin immediately for control of diabetic ketoacidosis along with supportive treatment and broad spectrum antibiotics like Cefotaxime and anti mycotics like Amphotericin B were started, but, patient succumbed to death within 10 days of admission.

DISCUSSION

Rhinocerebral orbital mucormycosis entity commonly occurring in diabetics and immuno compromised patients and is characterized by aseptate hyphae, long sporangiophores and large sporangia with thin walls. Characteristically the rhizoids are absent.

Mucor species are cosmopolitan fungi and the spores of fungi are ubiquitous and the natural resistance to this disease is strong as the incidence is very rare. Mucormycosis classified under phycomycosis. In this there are three groups mucormycosis, entomophoramycosis and oomycosis. Under mucormycosis there are five species Absidia, Mucor, Rhizopus, Cunninghamella and Mortierella species.⁵ The first three are characterized by fulminating lesions of orbital tissues, nasal sinuses, invasion of central nervous system and massive invasion of blood vessels. Cunninghamella elegance is the causative organism of lymph sarcoma and leukemias and mortierella species cause

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Figure-1: Patient Suffering from Rhinocerebral Orbital Mucormycosis; **Figure-2:** Growth on Sabourands Dextrose agar; **Figure-3:** Morphology of Mucor species In Lacto phenol cotton blue Preparation

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indolent skin ulcers.

In the present case the patient was immuno compromised with juvenile insulin dependent diabetes mellitus (detected after admission) reported to the casualty in an unconscious state with cutaneous lesions, inflammation of nasopharyngeal mucosa and paranasal sinuses.^{6,7} Though laboratory investigations revealed juvenile diabetes mellitus and mucormycosis patient succumbed to death as she brought in advanced stage of the disease. Mucormycosis affects all ages of patients from premature infants to old age.⁸ But reporting and registering this scenario will alert young doctors could likely lead to early detection and treatment of immune compromised conditions as well as opportunistic mycotic infections. Successful treatment can be given for mucormycosis infections with early diagnosis by surgical debridement, sinus ventilation supported with antifungal medication.^{9,10}

CONCLUSION

We report a rare case of rhino cerebral orbital mucormycosis in a juvenile diabetic and mycotic infection. Early diagnosis could have saved the life of individual. Alerting and alarming the doctors working in the rural areas will lead to early referral of near miss cases for early diagnosis and treatment.

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