CASE REPORT **PROF-717**

MUCOR MYCOSIS;
CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT
Mucor mycosis is an aggressive opportunistic[1] fungal infection with very high mortality. It is usually seen in patients with metabolic derangements and/or Immunosuppression. The genera most commonly responsible for this condition are Mucor[4] or Rhizopus[2]. It usually presents with periorbital and facial swelling, headache, fever, visual disturbance, nasal discharge & stuffiness[2]. It can be confused with orbital cellulitis & cavernous sinus thrombosis. A case of mucor mycosis is presented which was confused with orbital cellulitis initially.

Key words: Mucor mycosis

INTRODUCTION

Mucormycosis[1] is an aggressive opportunistic infection caused by Fungi in the class of Phycomycetes, first described in i 883 by Paltauf. The genera most commonly responsible for mucor mycosis usually are Mucor or Rhizopus. Orbitorhinocerebral[1] mucor mycosis is the commonest type[4] which involves the orbit, sinuses & brain.

Fifty to seventy[1] five percent patients have poorly controlled diabetes & Ketoacidosis. It is usually seen in immunosupressed patients and patients with metabolic derangements especially liver & kidney problems[3]. Despite advances in diagnosis & treatment, a high mortality exists for this disease so it is important to diagnose it early and treat aggressively.

Patients present with periorbital or facial swelling, ptosis, headache, visual problem, fever, deteriorating conscious level[2]. Diagnosis can be confirmed by tissue biopsy, with fungal smear & culture[2]. Treatment is with Liposonal Amphotericin[2] along with other supportive measures.

CASE REPORT

A 55 years old lady presented with swelling of left orbit and ptosis. She also complained of nausea, vomiting and loss of appetite. She was a known diabetic for last 20 years. Diabetes was poorly controlled. She had diabetic retinopathy for which she had received laser treatment. There was evidence of neuropathy on Clinical examination. There was a strong family history of diabetes and renal failure due to diabetic nephropathy. Her blood glucose was 520 mg/dl, creatinine 6.0m.mol and serum K^+ 4.5 m.mol. She was started on ® insulin infusion and I/V. Blood cultures were sent. Regarding her eye condition a provisional diagnosis of orbital cellulites was made and she was started on I/V Cefotaxime. During the next 24 hours her blood glucose came down significantly.

There was some improvement of the orbital swelling also. Ophthalmologist opinion was also taken. In his opinion there was no evidence of cavernous sinus thrombosis. During the next two days the blood glucose started to rise again despite increasing the dose of insulin and a swelling started to appear along left nasal border below the orbit which was firm in consistency, during the night there was one episode of epistaxis. She was restarted on insulin infusion. On the basis of her orbital swelling, maxillary swelling uncontrolled diabetes, renal failure and other clinical features a diagnosis of mucor mycosis was suspected.

The opinion of ENT Specialist was sought. CT scan Brain was arranged. The ENT Surgeon retrieved blackish bony piece from the right nostril, examination of left nostril showed clotted blood and blackish pigment and the appearance was suggestive of fungal infection. The CT scan showed total obliteration of left orbit but no extension to brain. The patient was started on ketoconazole as amphotericin was not available. Fungal scraping were sent for smear examination & culture. In view of deteriorating renal function and general condition patient was shifted to ICU Intravenous metronidazole was added to Cefotaxime. Hemodialysis was offered but was refused by the attendants. The Serum Creatinine increased to 8.0 m.mole. Serum Potassium increased to 6.8 m.mol which was treated with insulin Glucose infusion. In the mean time patient's conscious level deteriorated, output reduced to 300ml/24HR. Finally the attendants agreed for Hemodialysis but could not arrange amphotericin.

The patient was Hemodialysed once but did not improve and expired on the 4th post admission day. The Fungal smear received after wards showed non septate broad hyphae suggestive of Mucor mycosis. Culture report received after 4 week showed colonies of Mucor species.

DISCUSSION

Mucor mycosis is an opportunistic fungal infection[1]. The genera most commonly involved are Mucor & Rhizopus. The spores of these fungi are ubiquitous[2]. They gain entrance through mouth & nose[1].

In immunocompromised individuals, these spores attach to the mucosa. They multiply and invade the blood vessels. They invade the nasal cavity, maxillary sinus extend to the orbit through the ethmoid sinus. Intracranial spread occurs through the orbit. Exact frequency is not known but is higher in immuncompromised patients and diabetics. Despite advances in diagnosis and treatment, a high mortality still exists[1]. Mortality rates of 30-70% are quoted in the literature. There is no specific predisposition for sex or race. Disease is seen in all age groups. In our case the lady was infected with Mucor species. She had two predisposing factors, uncontrolled diabetes and renal failure.

The patients with this condition usually present with orbital & facial pain, headache, fever, nasal discharge, visual changes & sinusitis[2]. On examination there may be periorbital and facial swelling with sign of orbital cellulitis like proptosis and opthalmoplegia. On nasal examination black necrotic tissue may be visible on nasal turbinates & septum[4]. In later stages the patient becomes confused and then slips into coma. The patients are usually immunocompromised due to use of steroids or cytotoxic drugs[3]. They have gross metabolic derangements like liver failure, renal failure, uncontrolled diabetes and ketoacidosis.

This disease is also seen in transplant & cancer patients. (Our patient presented with orbital pain, headache, nasal discharge and visual changes. On examination she had periorbital swelling proptosis, opthalmoplegia and the initial diagnosis was orbital cellulitis. Her nasal examination revealed black necrotic Pigment. She had uncontrolled diabetes mellitus, ketoacidosis and renal failure due to diabetic nephropathy).

For the diagnosis of this condition biopsy of involved necrotic tissue is indicated which shows broad non-septate hyphae[3]. Fungal culture are also done C.T. scan can be done to evaluate the extent of the disease[2]. In our case, biopsies were taken from the nose. On fungal smear examination they showed broad non-septate hyphae. The culture showed colonies of mucor species. C.T. scan showed obliteration of the left orbit. This disease[1] is managed by treating the underlying medical

disease. Correction of hypoxia, acidosis hyperglycemia & electrolyte abnormalities should be done. Any steroid or immunosuppressant medication is discontinued if possible[2]. Liposomal Amphotericin B is given intravenously to treat the infection[6]. Renal functions should be monitored closely. Aggressive Surgical debridemet of all necrotic tissue is necessary[3,5]. Local irrigation[1] and packing with amphotericin is also done. Orbital exenteration along with removal of sinuses may be necessary[2]. Reconstructive surgery is considered after complete resolution of infection.

REFERENCES

1. Kimberly GY, Michael TY. Mucor mycosis. E medicine Journal 2001;2:2-10.

2. Jhon.E. Bennet. Mucor mycosis, In; Anthony S. Fanci Joseph. B. Mantin Eds. Harrison Principles of Internal Medicine. 1998:1158.

3. Richard.J.H. Hammill. Infectious diseases: Mycotic In : Lawrence M. Tierney, Stephen J. McPhee, Maxine A. Papad-akis Eds. Current Medical diagnosis and Treatment 2001:1489.

4. M.J.G Farthing,,D.J.Jeffries and J.Anderson. Infections diseases, tropical medicine and sexually transmitted diseases. In: Kumar-P, CLARK.M Eds. Clinical Medicine, W.B. Saunders; 1998:70.

5. Griffith WAD, Wilkinson JD, Fungal Infections. In: Champion RH, Burton JL, Burns DA, Breathnach SM, eds. Rook/Wilkinson/Ebling Text Book of Dermatology, Blackwell Science Ltd. Oxford 1998:1277-1376.

6. Hay RJ. Deep fungal infections In:Freedberg IM, Eisen AZ, Wolff K, eds. Fitzpatric's Dermatology in general medicine.5thedn. New York: McGraw-Hill; 1999:2372-88.