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# *Mucormycosis* Endophthalmitis in an Immunocompetent Host

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**Dr. USN MURTHY**

*PROF & HOD, Ophthalmology*
*Gayathri Vidyaparishad Institute of Health Care & Medical technology, Visakhapatnam, Andhra Pradesh 530048, India.*

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**ABSTRACT**

*Mucormycosis* is a known dreadful fungal infection which usually occurs in longstanding poorly controlled diabetics, immunocompromised individuals, usually involves cerebral & Paranasal sinuses, ocular involvement with other system is reported in history. The patient an 82 years old female patient, non diabetic, immunocompetent, developed a whitish globular lesion in AC after nearly 4 months after uneventful surgery. Debulking the lesion & HPE of it revealed Mucor mycosis. We present a case of *Mucormycosis* of the anterior chamber of the eye, postoperatively in non-diabetes, immunocompetent individual.

## INTRODUCTION

*Mucormycosis* & *Aspergillosis* infections are aggressive fungal infections that carry high mortality rate. The family Mucoracea is divided into the subspecies Absidia, Rhizopus, and Mucor. There is some controversy to the terminology used to refer to infections caused by the species. Clinicians more commonly use *Mucormycosis* . *Mucormycosis* is ubiquitous in nature, found in soil & on decaying vegetation. It has the ability to rapidly grow and release a large number of spores that become airborne and gain entry into the human body through ingestion and inhalation. In the immunocompromised individuals a variety of infections such as orbito-rhino -cerebral infections, pulmonary, gastrointestinal, cutaneous, isolated CNS infections occur.

The *Mucormycosis* infection is also reported in patients with diabetic ketoacidosis, renal failure, Leukemias. In almost all the cases the infection is aggressive and with fatal results. *Mucormycosis* is seen in uncontrolled diabetics, the immunocompromised individual in our case patient is a nondiabetic & immunocompetent individual with completely good health. Treatment with intracameral, local and systemic amphotericin-B completely cured the lesion. We present a case of *Mucormycosis* of the anterior chamber of the eye, postoperatively in non-diabetes, immunocompetent individual.

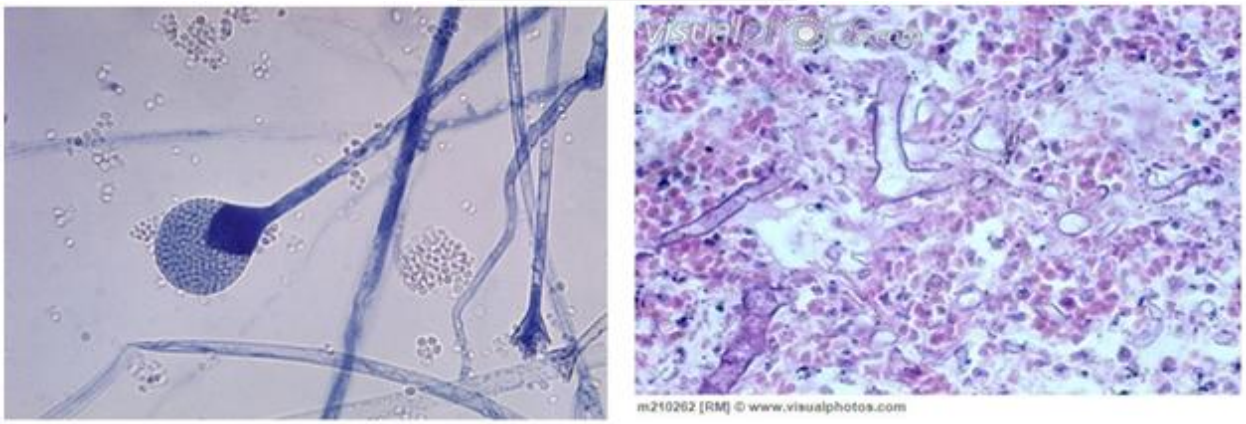



**Fig: 1. *Mucormycosis***

## PATIENT PROFILE:

An 82-year-old female has come to us with the complaint of defective vision LE for the past 6 months on 06/01/2014. Slit lamp examination revealed OD- pseudophakia with the pupillary

capture of the optic of IOLvision-6/24 with correction 6/12`Fundus-Optic disc and blood vessels normal. Stippling in the macula. FR dull OS-Conjunctiva (N),cornea clear, Anterior chamber normal depth(gr3-Vanherick), pupil briskly reacting, Nuclear cataract gr 3-4, Vision-CF 1mtr with ph 6/60 Fundus-Optic disk & Blood vessels hazily seen but details could not be made out

**INVESTIGATIONS** -FBS-86mg/dl HIV-Non-reactive Hbs- Ag-Negative

**Ocular investigations**: IOP-16mm of hg Naso lachrymal passages –patent IOL power-23D

SICS WITH PC I0Lwas done under Local anesthesia on 19/01/2014. Preoperative - uneventful. Post operative period: 1st day-Mild conjunctival congestion Cornea clear AC-Normal depth Pupil reacting IOL in situVision-6/9. Rest of the Postoperative period was uneventful and the patient was refracted after 6 weeks and was prescribed glasses.

After 3months, the patient presented with Redness, Lacrimation, O/E conjunctival congestion+ corneal epithelial edema+ A small whitish globular lesion in the AC at 6 'O' clock position. Few cells are present. Vision 6/9 AC wash was performed and the patient was reviewed after 4 days. There was the reappearance of the lesion with few cells in the AC. Again AC tap was done and sent for culture and sensitivity and intracameral Voriconazole was injected and the patient was started on Voriconazole drops. The patient was reviewed after 5 days. There was no improvement and two more lesions appeared by the side of the primary lesion. Debulking was done by entering AC at6 0 clock and material was sent for culture and sensitivity again .Intracameral Amphotericin-B was injected and Amphotericin-B drops with Nevanac drops were started. The next day of intracameral injection patient developed severe exudative iridocyclitis and the vision dropped down to CFCF.

Specimen sent for KOH preparation showed fungal hyphae typical of *Mucormycosis* and culture was also positive for *Mucormycosis*. Evaluation of posterior segment with indirect ophthalmoscope and B-scan revealed minimal haze vitreous just behind IOL and healthy retina. A thorough search for any other lesion anywhere in the body was done by doing MRI of brain, paranasal sinuses, U/S scan of the abdomen and they were normal. All the blood investigations, TC-5600, DC-P54, L36, B4, M6, Hb-12gm-, HIV-Nonreactive, HbsAg-ve, blood sugar (Fasting)-86mg. CD4 count1500cells/microlitre were all within normal limits. The patient was continued on Ampho & Nepafenac & tapered over a period of 6 months. Liposomal

Amphotericin-B 5mg/kg at an infusion rate of2.5 mg/kg/hr was given with a micro drip under the supervision of physician & anesthetist for 7 days and later it was stopped due to the toxicity of the drug. Slowly iridocyclitis has come down and vision improved to 6/18 with -2.00 Cyl 90deg 6/9.

The patient was last seen on 12th Aug 2015. There is no recurrence of the lesion. PCO+. Posterior segment- (N).Vision- 6/18. Survey of the literature reveals *Mucormycosis* occurred in cerebrospinal, orbital & paranasal sinuses in the immune compromised individual.

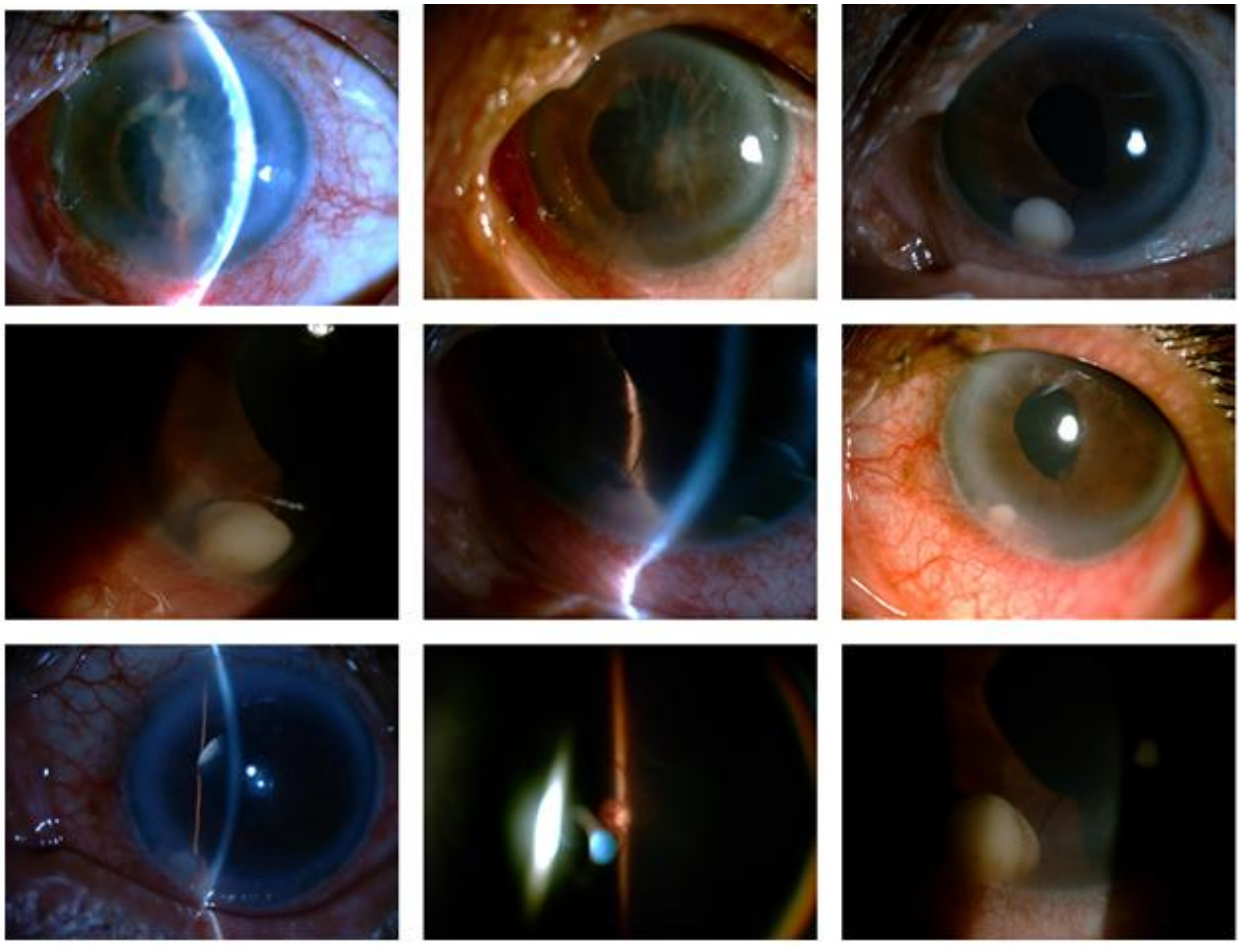
**DISCUSSION**

*Mucormycosis* is a life-threatening infection that usually affects patients with diabetes, prolonged use of corticosteroids, hemorrhagic malignancies. Renal failure and other immunocompromised individuals. A study of the incidence of *Mucormycosis* shows its occurrence in sinuses (39%), lungs (24%), dermatological (19%) and dissemination developed in 23%. of cases.

Presentation of this case varies greatly differs in terms of the organs reportedly affected in the literature. A case of orbital Mucormycosis was reported in an adolescent of 14 yrs, of an otherwise healthy child, who was put on steroids for a month for some ailment. A rapidly progressive rhinocerbral Mucormycosis occurred in a well controlled elderly diabetic after a course of prednisolone therapy (**1**). Another case of rhizopus microspores was reported in a patient o mild steroid induced hypoglycemia (**2**).


Pictures of results showed the growth of rhizopus microspores at GVP College, Visakhapatnam.

To our knowledge after searching the literature it is the 1st case we have seen a *case of Mucormycosis* involving only anterior chamber of the eye without involving the brain, paranasal sinuses in a nondiabetic, immune competent individual with healthy vital organ function.



## CONCLUSION

1. Early clinical diagnosis is important as this disease proves fatal in a good percentage of cases if the treatment is delayed. Initiation of appropriate therapy within 5 days of diagnosis yields 80% survival compared to 40% survival if the treatment is delayed beyond 5 days (**3**).

2. *Mucormycosis*, though common in immunocompromised individuals, it can also occur in immunocompetent individual (**4**).

3. The diagnosis can be confirmed by biopsy which reveals broad nonseptate hyphae

4. *Mucormycosis* can be successfully treated with Amphotericin-B; Lysosomal Amphotericin-B (**5**) is preferred when parenteral management is contemplated.

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**Declaration of "No conflict of interest"**

Authors declare that there is no conflict of interest.

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