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Original Research Paper

Pathology

# PRIMARY BREAST MUCORMYCOSIS- COMMON LESION AT RARE SITE

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| Shweta Kochar | Junior Resident, Dept of Pathology, Dr.D.Y. Patil School of Medicine, Nerul, Navi Mumbai, |
| Surekha Bhalekar* | Associate Professor, Dept of Pathology, Dr.D.Y. Patil School of Medicine, Nerul, Navi Mumbai*Corresponding Author |
| Sneha Chavarkar | Assistant Professor, Dept of Pathology, Dr.D.Y. Patil School of Medicine, Nerul, Navi Mumbai |

**ABSTRACT** Mucormycosis is a rare fungal infection caused by opportunistic fungi of order Mucorales.1 Commonly seen in diabetic or immunocompromised patients but can be seen in immunocompetent individuals also.1 A 54-year-old female presented with pain, swelling and discharging sinus in the left breast for 2 months. Clinical diagnosis of mastitis was made, and a release incision was given. Histopathology revealed mucormycosis of left breast. 2 cases are reported of primary mucormycosis of breast in English literature.[1,2]

**KEYWORDS :** Mucormycosis, breast, primary fungal infection, discharging sinus,promised state.

## INTRODUCTION

Mucormycosis is rare fungal infection caused by saprophytic fungus of class Phycomycetes order Mucorales and family Mucoracae, found in soil, bread moulds and decaying fruits & vegetables.1,3 Often occurring in immunocompromised patients like HIV, those on stem cell transplantation, chemotherapy, autoimmune disease, hematological malignancy, diabetes, old age, post-partum but can occur in immunocompetent individuals also.[1,4]

Once infected, the fungus invades the vasculature and leads to thrombosis and tissue ischemia which causes necrosis and high mortality.1

## CASE STUDY

A 54-year-old female presented with pain, swelling and discharging sinus from left breast for 2 months. No history of trauma, diabetes or any other chronic disease. Clinical diagnosis of mastitis was made, and a release incision was given.

An incisional biopsy histopathology report revealed necrosis, neutrophilic infiltrate and several broad aseptate hyaline fungal hyphae with irregular branching at right angles mainly at the periphery of lesion suggestive of Mucormycosis.4 We lost patient to follow up.

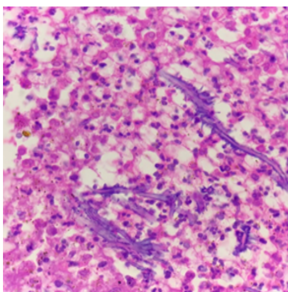

**Figure:** Histopathological findings. Microscopic view of biopsy showing several broad aseptate fungal hyphae suggesting diagnosis of Mucormycosis. (H&E, 400X).

## DISCUSSION

Mucormycosis is an invasive fungal infection often invading blood vessels causing thrombosis, infarction and necrosis.3 Usual sites are rhino cerebral, lungs, cutaneous, gastrointestinal, central nervous system and miscellaneous.2 Histologically, mucormycosis is characterized by extensive tissue necrosis and large fungal hyphae which are non-septate.2 The hallmark of disease caused by the Mucorales are vascular invasion and tissue necrosis which results in black eschar and discharges.2 Grocott-Gomori methenamine-silver(GMS) stain is the best stain to use but hematoxylin and eosin and periodic acid-Schiff are also useful.2

## CONCLUSION

Breast being a rare site, early and correct diagnosis will be of great help in starting prompt antifungal treatment and prevent future morbidity and mortality. Its an emerging fungal infection in immunocompromised patient and high level of clinical suspicion & correct diagnosis of a skilled pathologist will help to improve the survival of the patient. Fungal culture in brain heart infusion agar, Sabouraud and potato dextrose agar media, avoiding media with antibiotics that inhibit fungus growth along with direct KOH microscopic examination and newer molecular methods like RT-PCR are also helpful to expedite diagnosis.[4]

We can do RT-PCR with 100% specificity and result within 2-3 hours.[4]

A multidisciplinary approach is necessary to improve survival in invasive mucormycosis. This should include first line therapy with antifungal drugs like Amphoteric B, adjunctive hyperbaric oxygen therapy combined with aggressive surgical debridment.2,4 Also the prevention of underlying immunocompromised state by increasing immunity by means of healthy balanced diet, exercise, yoga and sound sleep.

CONFLICT OF INTEREST
None.

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