Morbidity Analysis in Post Operative Cases of Mucormycosis Patients.

Dr. Chinmayee Joshi¹, Dr Achal Pandya^{2*}, Dr Sreevidya³, Dr. Nandini Gupta⁴, Dr. Divyanshu Sharma⁵, Dr. Avinash Shah⁶

¹Associate Professor, Dept. of ENT, B. J. Medical College, Ahmedabad ^{2,3,4,5,6} Senior Resident, Department of ENT, B J Medical College, Ahmedabad

Corresponding author: Dr. Pandya Achal **Email**: <u>pandya.achal432@gmail.com</u> DOI: 10.56018/20250602



Abstract

Introduction: Secondary fungal or bacterial infections or co-infections during the course of Covid 19 are important challenges increasing the patient's morbidity and mortality. We have observed sudden rise of mucormycosis cases in post COVID 19 patients. **Aims & Objective**: To assess morbidity in operated cases of mucormycosis patients. **Material & Methods:** This study is cross sectional observational study which was conducted in the Department of ENT, B J Medical College & Civil Hospital, Ahmedabad, Gujarat, India. Data was collected from the 100 patients of mucormycosis. **Results:** In our study, most common complaint post operatively was headache. In our study only 16% of patients were complaint free where as 84% of patients had one or more complaints. Majority of our patients in the study had mild post-operative complaints. **Conclusion:** The results of the study showed that the overall quality of life of the patients improved significantly after surgery & medical management. Majority of the patients who survived mucormycosis remained with one or more post-operative complaints signifying debilitating nature of the disease & the devastating effect it can have on one's quality of life.

Keywords: Endoscopic sinus surgery, facial pain, coronavirus, rhino-sinusitis complications.

Introduction

Covid-19 pandemic was an outbreak of coronavirus disease that was first identified in December 2019. The severity of the disease ranges from asymptomatic infection to respiratory failure and death¹. Secondary fungal or bacterial infections or co-infections during the course of Covid 19 are important challenges increasing the patient's morbidity and mortality. We have observed sudden rise of mucormycosis cases in post COVID 19 patients.

Mucormycosis (previously called zygomycosis) is a serious but rare fungal infection caused by a group of molds called mucormycetes. ^[2]These molds live throughout the environment. Mucormycosis mainly affects people who are immunocompromised. It most

commonly affects the sinuses or the lungs after inhaling fungal spores from the air. It can also occur on the skin after a cut, burn, or other type of skin injury.³

Mucormycosis disease very well affects the quality of life of patient in all aspect. It affects physical health, psychological health, social relationships, environment, sleep and work capacity may be affected. In psychological aspect bodily image and appearance, negative feelings, self-esteem, thinking and learning ability is affected.

Aims & Objectives

To assess morbidity in operated cases of mucormycosis patients.

Material and Methods

Research Design: The research design selected for this study is cross sectional observational study.

Settings of the Study: This study was conducted at a tertiary care centre in the Department of ENT, B J Medical College & Civil Hospital Ahmedabad, Gujarat, India.

Study Area: OPD and IPD Department of ENT

Data Collection: Data was collected from the patients of mucormycosis who got operated between May 2020 to May 2022 by telephonic questionnaire.

Approval for Study: Approval for the study was obtained from the Institutional Ethical Committee of B J Medical College& Civil Hospital Ahmedabad, Gujarat, India.

Sample Size: For this present study 100 cases were enrolled.

Inclusion Criteria:

- Patient diagnosed with mucormycosis& operated at civil hospital Ahmedabad.
- Patients who have taken at least 14 injections of Amphotericin B.
- Patients who consented for the study.

Exclusion Criteria:

• Patients who were not willing to participate in the study.

Results

Total 100 patients were included in our study. The most common age group was 51-60 years of age. Out of total patients, 64 were males and 36 were females (n = 100). It showed male to female ratio of 1.78/1. Mean age was 56 years.

The most common presenting complaint post operatively on follow up was headache followed by runny nose > post nasal discharge > nasal blockage which is depicted in table below.

Sr No.	Complaints	No problem	Mild problem	Moderate problem	Severe problem
1	Headache	60	20	0	0
2	Runny Nose	60	16	4	0
3	Post Nasal Discharge	64	14	2	0
4	Nasal Blockage	68	12	0	0
5	Facial Pain	68	12	0	0
6	Anesthesia of Face/Cheek	70	6	2	2
7	Alteration Of Smell	74	6	0	0
8	Palatal Perforation	74	6	0	0
9	Difficulty In Chewing	76	4	0	0
10	Ear Fullness	78	2	0	0

 Table 1: Complaints & its Severity

Out of total 100 patients which were included in our study, 20 patients died within 2 years after discharging from hospital.

Figure 1: Headache & its severity

Out of 100 patients, 60 patients did not have complaint of headache whereas 20 patient complained of mild headache which did not affect day to day activities.(Chart 1)



Figure 2: Runny nose & its severity

Out of 100 patients, 60 patients did not complain of runny nose whereas 16 patients had mild problem & 4 patients had moderate problem due to runny nose. (Chart 2)



Figur 3: Post nasal discharge & its severity

Out of 100 patients, 64 patients did not complain of post nasal discharge whereas 14 patients had mild problem & 2 patients had moderate problem due to post nasal discharge. (Chart 3)



Figure 4: Nasal Blockage & its severity

Out of 100 patients, 68 patients did not complain of nasal blockage whereas 12 patients had mild problem & no patient had moderate or severe problem due to nasal blockage. (Chart 4)



Figure 5: Facial Pain & its severity

Out of 100 patients, 68 patients did not complain of facial pain whereas 12 patients had mild problem & no patient had moderate or severe problem due to facial pain. (Chart 5)



Figure 6: Anaesthesia of Face/ Cheek & its severity

Out of 100 patients, 70 patients did not have anaesthesia of face/cheek whereas 6 patients had mild problem, 2 patient had moderate problem& 2 patient had severe problem of anaesthesia of face/cheek. (Chart 6)



Figure 7: Loss of Smell & its severity

Out of 100 patients, 74 patients did not complain of loss of smell whereas 6 patients had mild problem & no patient had moderate or severe problem of loss of smell. (Chart 7)



Figure 8: Palatal Perforation & its severity

Out of 100 patients, 74 patients did not complain of palatal perforation whereas 6 patients had mild problem & no patient had moderate or severe problem due to palatal perforation.



Figure 9: Difficulty in chewing & its severity

Out of 100 patients, 76 patients did not complain of difficulty in chewing whereas 4 patients had mild problem & no patient had moderate or severe problem in difficulty in chewing.



Figure 10: Ear fullness & its severity

Out of 100 patients, 78 patients did not complain of ear fullness whereas 2 patients had mild problem & no patient had moderate or severe problem of ear fullness.



Figure 11: Morbidity in Post-Operative Mucormycosis Patient

In our study only 16% of patients didn't had any complaint where as 84% of patients had one or more complaint.



Discussion

Total 100 patients were included in our study. The most common age group was 51-60 years of age. Out of total patients, 64 were males and 36 were females (n = 100). It showed male to female ratio of 1.78/1. Mignogna et al. found a higher male to female ratio.^[4] Mean age was 56 years. Similar results were reported by White et al.⁵ in his study of 135 adults with median age 57 years and male to female ratio 2.2/1.

In our study of 100 patients of operated cases of mucormycisis, 80 patients were alive & were on follow up, rest 20 patient died within 2 years of discharging from hospital showing high mortality rate of 20% which is comparable to study of B spellberg et al. ^{6,7}

We have collected the data by telephonic conversation & their follow up OPD visits. Telephonic because our centre being tertiary care centre, many patients coming from far of places finding it difficult to come frequently & were on follow up in their respective nearby centers.

In our study, most common complaint post operatively was headache followed by runny nose, post nasal discharge, facial pain, nasal blockage & anaesthesia of face & cheek.

In our study only 16% of patients didn't have any complaint where as 84% of patients had one or more complaints.

Majority of our patients in the study had mild post-operative complaints while only a fraction of patients had moderate to severe degree of complaints.

Vision was also affected in many patients. But the limitation of our study was that we could not include that as proper assessment is not possible on telephonic conversation & in ENT OPD setup. Ideal vision assessment should be done by ophthalmologist using charts. However following data was collected & observed in our study.

Vision on post op follow up was same as pre op in 62 patients, improved in 10 patients & worsened in 8 patients.

Conclusion

The results of the study showed that the overall quality of life of the patients improved significantly after surgery& medical management. However, the study also found that patients who had undergone more extensive surgery had a lower quality of life compared to those who had undergone less invasive surgery. Patients were able to cope up with day to day physical demands & also showed improvement in social functioning, mental health & sense of well-being. Majority of the patients who survived mucormycosis remained with one or more post-operative complaints signifying debilitating nature of the disease & the devastating effect it can have on one's quality of life. Early diagnosis with prompt medical and surgical intervention is of paramount importance in management of mucormycosis leading to less morbidity and mortality and achieving better outcome for the patient. However the post-operative morbidity is also affected by many other factors such as age, comorbidities, severity of illness of patients, psychological and emotional support from relatives during the entire course of treatment.

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