Case Report

Journal of Emergency Medicine Case Reports

Rhinocerebral Mucormycosis Case in the Emergency Room

Prof. Dr. Sahin ASLAN, Dr. Issa Malongo OMAR, Dr. Vahide Aslihan DURAK, Assc Prof Dr. Halil İbrahim CIKRIKLAR, Dr. Fatma OZDEMIR
Bursa Uludag University Medical Faculty, Emergency Medicine Department, Bursa, Turkey

Abstract

Introduction: Rhinocerebral mucormycosis is a rare disease, which causes serious and life-threatening fungal infections.The disease usually develops in immunocompromised individuals and usually begins by mimicking cellulite, especially in the face area, and shows a very rapid course.

Case Report: A 75-year-old male patient previously admitted to an external center with 3-4 days complaints of headache, numbness in the right half of his face and closure of his left eye was brought to our emergency department for further investigation.The cranial magnetic resonance imaging (MRI) revealed suspected opportunistic fungal infection or malignancy in the ethmoidal and sphenoidal sinuses.The patient was hospitalized with the diagnosis of opportunistic fungal infection after consultations to relevant clinics. Biopsy revealed polypes and mucocele like cystic tissues. The patient, followed-up and treated with rhinocerebral mucormicosis, was transferred to intensive care unit after deterioration of his general condition.After approximately 45 days of follow-up and treatment, the patient was lost due to multiple organ failure.

Conclusion: Rhinocerebral mucormycosis is an emergency that requires a multidisciplinary approach. Presence of one or more of the non-traumatic orbital apex syndrome findings should alert emergency physicians. In this and similar infections with high mortality rates, early diagnosis and treatment may lead to good results.

Key Words: emergency department, fungal infection, rhinocerebral mucormycosis.

Introduction

Mucormycosis, first described in 1885, is an opportunistic fungal infection caused by fungi belonging to the mucolores group from the mucoraceae family. Although mucormycosis is rare, it causes serious and life-threatening fungal infections. The disease usually develops in immunocompromised individuals. Although it develops in different places, the disease usually begins by mimicking cellulite, especially in the face area, and shows a very rapid course. Delays in diagnosis and treatment may result in to death[1,2]. In this case, we present a mucormycosis patient with ptosis complaint.

Case report

A 75-year-old male patient previously admitted to an external center with 3-4 days complaints of headache, numbness in the right half of his face and closure of his left eye was brought to our emergency department for further investigation. The patient, who had ongoing drug therapies for hypertension and diabetes mellitus, also had diagnoses of coronary artery disease and atrial fibrillation. Vital findings were stable except for 160/90 mmHg blood pressure. Physical examination revealed his inability to open the left eyelid, limited outward gaze in the right eye and numbness in the right facial area. Other system examinations were normal. Labolatory findings were normal except for glucose: 364mg /dL (normal value; 70-100mg/ dL), CRP: 146 (normal value; <5), WBC: 19650 (normal value; 4,500-11,000mg/ dL), calcium: 7.8 (normal value; 8.8-10mg/ dL), sodium: 131 (normal value; 136-145mg/ dL) and creatinin : 1.14 (normal value; 0.7-1.1). Blood pressure and blood glucose levels were regulated. Cranial computerized tomography (CT) performed on the patient was evaluated as normal. His cranial magnetic resonance imaging (MRI) revealed suspected opportunistic fungal infection or malignancy in the ethmoid and sphenoid sinüs. The patient was hospitalized with the diagnosis of opportunistic fungal infection after consultations to relevant clinics. Amphotericin B 5mg/kg, Posaconasal 2*400mg and Meropenem 3*1gr intravenous therapies were initiated. Biopsy revealed polypes and mucocele like cystic tissues. The patient, followed-up and treated with rhinocerebral mucormicosis, was transferred to intensive care unit after deterioration of his general condition. After approximately 45 days of

Corresponding Author: Vahide Aslihan Durak **e-mail:** aslidurakis@hotmail.com
Received: 04.05.2021 • **Accepted:** 29.06.2021
DOI: 10.33706/jemcr.932160

Picture 1: Note the patient's inability to open the left eyelid and limited outward gaze in the right eye.

follow-up and treatment, the patient was lost due to multiple organ failure.

Discussion

In general, opportunistic fungal infections occur in immunosuppressive patients. Rhinoserebral mucormycosis is an infection that occurs in patients with compromised immune system, progresses very rapidly and often has a fatal course. Diabetes mellitus and neutropenic hematological malignancies are known as suitable backgrounds for the development of this disease[3].As in our case, uncontrolled diabetes is a serious factor in the emergence and rapid development of this infection[4].

Generally, patients present with signs and symptoms such as a persistent headache and a feeling of fullness, facial swelling and redness, ptosis, exophthalmos, and ophthalmoplegia. These symptoms, described in orbital apex syndrome, were also present in our case. In addition, our case had numbness in the right half of the face, whose boundaries could not be determined exactly. The patient had ptosis in the left eye and limited outward gaze in the right eye, as seen in Picture 1.

Early diagnosis and treatment is mandatory in this disease due to high mortality rates. For early diagnosis, it is important to evaluate clinical and radiological suspicions together with risk factors. Clinical sample (biopsy, CSF, sputum, etc.) study should be done for definitive diagnosis. Cranial imaging may also reveal nodular thickening of sinus linings, absence of fluid levels, and destruction of bony walls of the sinuses[4]. Brain MR imaging performed for our case revealed increased mucosal thickness in paranasal sinuses consistent with invasive opportunistic infection or malignant infiltration (Figure 2).

Conclusion

Although rare in general, rhinocerebral mucormycosis is an emergency that requires a multidisciplinary approach. Presence of one or more of the non-traumatic orbital apex syndrome findings should alert emergency physicians. In this and similar infections with high mortality rates, early diagnosis and treatment may lead to good results.

References

1. Goel S, Palaskar S, Shetty VP, Bhushan A. Rhinomaxillary mucormycosis with cerebral extension. J Oral Maxillofac Pathol. 2009;13:14–7.
2. Mohindra S, Mohindra S, Gupta R, Bakshi J, Gupta SK. Rhinocerebral mucormycosis: The disease spectrum in 27 patients. Mycoses. 2007;50:290–6.
3. Afroze SN, Korlepara R, Rao GV, Madala J: Mucormycosis in a dabetic patient: a case report with an insight into its pathophysiology. Contemp Clin Dent. 2017, 8:662-6.
4. Skiada A, Lanternier F, Groll A, et al.: Diagnosis and treatment of mucormycosis in patients with hematological malignancies: guidelines from the 3rd European Conference on Infections in Leukemia (ECIL 3). Haematologica. 2013, 98:492-04.

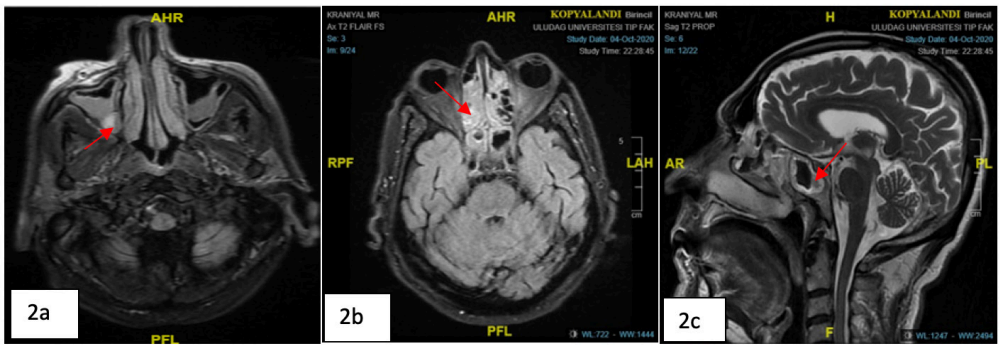

Figure 2: Arrows on figures 2a, 2b and 2c show increased mucosal thickness in the maxillary, ethmoid and sphenoid sinuses respectively.