Mucormycosis- a Dreaded Complication of Covid-19

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Number of words in the main text- 332

Number of words in the figure legend- 57

Number of figure- 1

Keywords: Mucormycosis; Covid-19; corticosteroids; paranasal sinus

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A 42-years old diabetic man developed fever, running nose, dry cough with generalized malaise 5-weeks ago. Reverse transcriptase polymerase chain reaction test for coronavirus disease (Covid-19) was positive (cycle threshold value 19). Since his cough increased and hypoxia (lowest pulse oxygenation 86%) were observed during the second week, computerized tomography of the chest was performed that showed patches of consolidation (CT score 16). He was treated with intravenous Remdesivir and dexamethasone for 6-days. His glycated hemoglobin (HbA1c) was 8.1%, therefore blood sugar levels were controlled with subcutaneous insulin during the hospital stay. He recovered satisfactorily and was discharged on oral glipizide, metformin and dexamethasone.

One week later, he was readmitted due to generalised headache, toothache, blocked nose and intermittent blackish discharge from left nostril. Clinical examination revealed tenderness over both maxillary sinuses and an ulcerative eschar at the hard palate (Figure 1A). Magnetic resonance imaging of paranasal sinuses showed altered signals in both maxillary sinuses, left agar nasi, rarefaction of left middle turbinate and uncinate process, thinning of posterolateral wall of left maxillary sinus and mild oedema of left hard palate and alveolar arch (Figure 1B). Serum ferritin level was 598ng/ml (normal range 20-250ng/ml). Nasal endoscopy was performed and the aspirate was examined (D).

Nasal aspirate was stained with potassium hydroxide, which revealed pauci-septate fungal hyphae, suggestive of mucormycosis.

He underwent bilateral modified Denker's procedure and removal of the palatal submucosal layer. Intravenous liposomal amphotericin B (10mg/Kg/body-weight) and ceftriaxone (2Gm/day), along with optimal control of diabetes resulted in satisfactory recovery during next 3-weeks.

Mucormycosis is rare opportunistic fungal infection characterized by infarction and necrosis of host tissues that results from angio-invasion by hyphae.[1] The infection usually starts in paranasal sinuses and rapidly extends into the palate and orbit. Mucormycosis infection in patients with poorly controlled diabetes mellitus and an immunocompromised state often causes significant morbidity and mortality.[2,3]

Optimal control of diabetes, judicious use of corticosteroids, early diagnosis and treatment are important for improving outcomes of this dreaded post-Covid complication with high mortality.

References

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Legend to the figure

Figure 1. Clinical, radiological and histopathological features of post Covid-19 mucormycosis of palate and paranasal sinuses. Blackish eschar (A) was noted on the hard palate. Inflammation of hard palate and alveolar arch (B) were seen on T2-weighted magnetic resonance imaging.

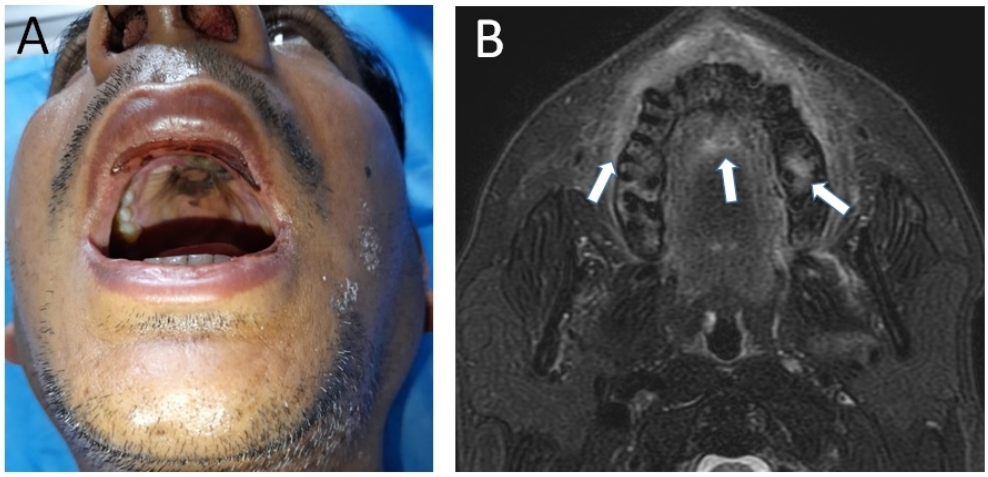

Figure 1

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