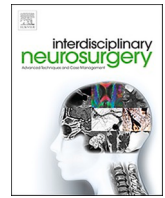




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Technical notes & surgical techniques

Surgical management of cavernous sinus mucormycosis through minipterional approach

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ABSTRACT

Rhino-cerebral mucormycosis is a rare fulminant fungal infection, that mostly occurs in individuals with committed immunity. The delay caused by late occurrence of cerebral manifestations led to poor prognosis. The treatment involves aggressive surgical therapy, with repeated debridement, in combination with intravenous anti-fungal therapy. We describe a case of microsurgical resection of rhino-cerebral mucormycosis with cavernous sinus extension and internal carotid thrombosis. Informed written consent was obtained from the patient. A 41-year-old patient, with diabetes mellitus was admitted at a nearby hospital for frontal headache and nasal congestion.

Computed tomography scan showed diffuse sinusitis. Endoscopic endonasal debridement of the paranasal sinuses was performed. Patient was then transferred to our institution. After one day of treatment, patient developed left sided hemiplegia and worsening of periorbital swelling. Magnetic resonance image depicted hyperintense signal changes in the right orbit, ethmoidal and maxillary sinus, partial thrombosis of the right cavernous sinus and internal carotid artery, and right fronto-parietal ischemia.

Debridement of the ethmoidal, maxilla and sphenoidal sinus, associated with right eye enucleation were performed. Histopathological examination revealed the presence of mucormycosis. Serial MRI imaging studies after day 40 showed increased extension of inflammatory changes in the right cavernous sinus and increased mass in the right trigeminal nerve, thrombosis of the right internal carotid artery and subacute cerebral infarcts. Because of the persistence of the infection the patient underwent extracranial and subdural microsurgery resection of mucormycosis collection in the right cavernous sinus. During the follow-up she gradually improved and was discharged on an ambulatorial regimen.

1. Introduction

Rhino-cerebral mucormycosis is a rare fulminant fungal infection, that mostly occurs in individuals with committed immunity [1]. The delay caused by late occurrence of cerebral manifestations led to poor prognosis [2]. The treatment involves aggressive surgical therapy, with repeated debridement, in combination with intravenous anti-fungal therapy [3]. We describe a case of microsurgical resection of rhino-cerebral mucormycosis with cavernous sinus extension and internal carotid thrombosis. Informed written consent was obtained from the patient. A 41-year-old patient, with diabetes mellitus was admitted at a

nearby hospital for frontal headache and nasal congestion. Computed tomography scan showed diffuse sinusitis. Endoscopic endonasal debridement of the paranasal sinuses was performed. Patient was then transferred to our institution. After one day of treatment, patient developed left sided hemiplegia and worsening of periorbital swelling. Magnetic resonance image depicted hyperintense signal changes in the right orbit, ethmoidal and maxillary sinus, partial thrombosis of the right cavernous sinus and internal carotid artery, and right fronto-parietal ischemia. Debridement of the ethmoidal, maxilla and sphenoidal sinus, associated with right eye enucleation were performed. Histopathological examination revealed the presence of mucormycosis.

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Serial MRI imaging studies after day 40 showed increased extension of inflammatory changes in the right cavernous sinus and increased mass in the right trigeminal nerve, thrombosis of the right internal carotid artery and subacute cerebral infarcts. Because of the persistence of the infection the patient underwent extradural and subdural microsurgery resection of mucormycosis collection in the right cavernous sinus. Pathologic results revealed non-septate 90-degree angle branching hyphae, compatible with zygomycetes. During the follow-up she gradually improved and was discharged on an ambulatorial regimen.

2. Disclosure

No disclosures

3. Financial

No financial support

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.inat.2021.101134>.

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