Mucormycosis 8예의 임상적 고찰

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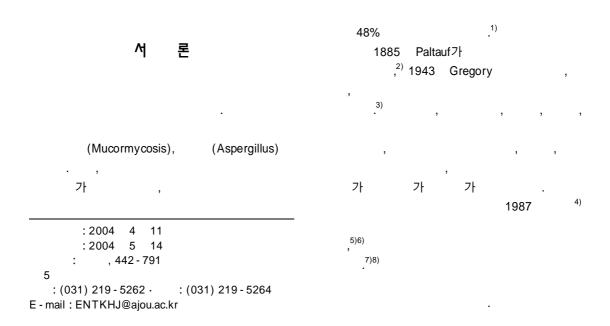
Clinical Analysis of Eight Cases of Mucormycosis

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-ABSTRACT -

Background and objectives: Invasive fungal sinusitis can present as either an indolent or fulminant process that primarily affects immunocompromised individuals. Rhinocerebral mucormycosis with intracranial involvement has a high mortality. Materials and Method: Clinical characteristics of eight cases of mucormycosis in patients were analyzed retrospectively and previous reports in the literature were reviewed. Results: We treated the patients with correction of underlying disease, wide local excision, debridement of all involved and devitalized oral, nasal, sinus, and orbital tissue and intravenous amphotericin B. Three patients survived and five patients died. Conclusion: Mainstays of treatment include antifungal agents and radical resection of necrotic tissue. Reversal of the underlying medical condition, when possible, is a critical part of the management. The favorable outcome was attributable to early diagnosis and management of focal areas of mucormycosis. (J Clinical Otolaryngol 2004;15:134-138)

KEY WORDS: Mucormycosis · Sinusitis.



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가 2 , . 3, 4, 8 5, 6, 7, 9, 10, 12 가 1 . . 7 (Fig. 1), 1 대상 및 방법 .

1994 9 2003 177 mg/ml 806 mg/ml 418 mg/ml , 77 mg/ 8.6 g/dl 14.5 g/dl ml 가 4 , 41.9% 12.1 g/dl , 24.3% 가 4 65 53.2 35.0% 99000(/ul) 41 (Table 1). 464000(/ul) 230000(/ul) (absolute neutrophil count) 8020(/ul) 15900(/ul) 12100(/ul)

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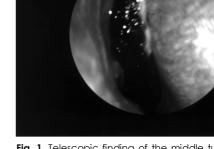


Fig. 1. Telescopic finding of the middle turbinate. Dark, necrotic mucosa was noted.

Table 1. Clinical characteristics of each patient

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	Sex/Age	Underlying Condition	Surgery	Amphotericin B	Result
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I	F/58	DM	ESS	2.9 g	NED
2	M/57	DM	ESS	180 mg	Death
3	M/51	DM	ESS	3 g	NED
			Orbit excenteration		
4	F/41	ALL, CTx	Maxillectomy	3 g	NED
5	M/65	DM	Biopsy	Not used	Death
6	M/53	DM	Maxillectomy	2.6 g	Death
			Orbit excenteration		
7	F/46	DM	ESS	3 g	Death
8	F/55	DM	ESS, C-L	3 g	Death

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DM: Diabetes mellitus, NED: No evidence of disease, ALL: Acute lymphocytic lymphoma, CTx: Chemotherapy, ESS: Endoscopic sinus surgery, C-L: Caldwell-Luc surgery

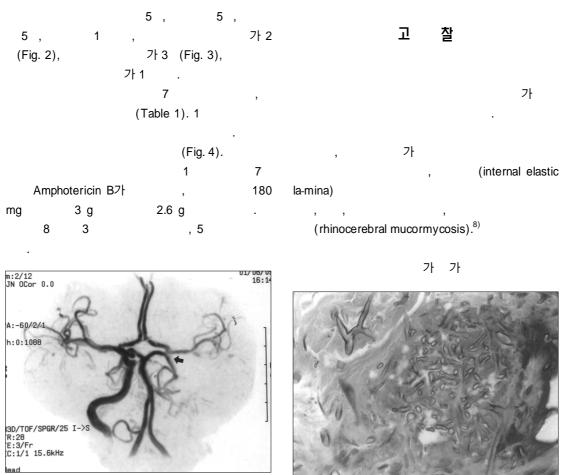


Fig. 3. Brain Angiography (AP view). Cerebral angiography demonstrating complete occlusion of the left carotid artery.

Fig. 4. Biopsy specimen of nasal cavity mucosa. Broad, non-septated hypae was noted (H & E, x200).

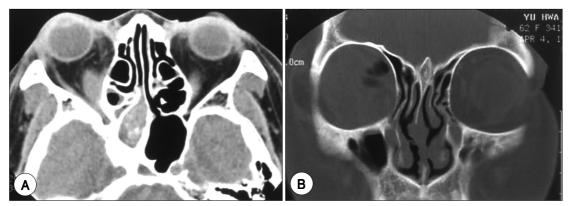
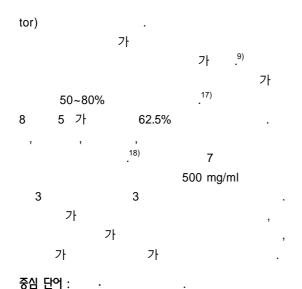


Fig. 2. Axial image (A) and coronal image (B) of a patient. PNS CT shows soft tissue densities in right sphenoid and posterior ethmoid sinuses with ipsilateral intraorbital extension.

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REFERENCES

- 1) Strausser KD. Rebecca JK, Rodney DA. Rhinocerebral mucormycosis. Therapy with amphotericin B lipid complex. Arch Int Med 1996;156:337-9.
- 2) Paltauf A. Mycosis mucornia. Virchow Archiv 1885;102:543.
- 3) Gergory JE, Golden A, Haymaker W. Mucormycosis of the central nervous system: A report of three cases. Bulletin of Johns Hopkins Hospital 1943;73:405.
- 4) Lee SK, Kim SB, Kim YK, Lee KH, Han JS, Kim SK, et al. Rhinocerebral mucormycosis in a kidney transplat recipient. Korean J of Int Med 1987;32(2):253-8.
- 5) Jung H, Kang PJ, Lee JY, Cha KS, Lee ID, Son DH, et al. A case of rhinocerebral mucormycosis associated with diabetes mellitus. Korean J of Int Med 1990;39(5):715-20.
- 6) Choi HY, Ryu JM. Rhinocerebral mucormycosis combined with brain abscess: A case report. Korean J of Plast Sur

- 1989:16(2):363-6.
- 7) Moon IH, Yoon SP, Jung HS, Jang JS. Three cases of fungal sinusitis with orbital complication. Korean J Otolaryngol 1998;41(6):804-8.
- 8) Lee CH, Jinn TH, Choi HY, Kim JY. Two cases of rhinocerebral mucormycosis. Korean J Otolaryngol 1989;32(1): 139-44
- Rizk SS, Kraus DH, Gerresheim G, Mudan S. Aggressive combination treatment for invasive sinusits in immunocompromised patients. Ear Nose Throat J 2000;79(4):278-80.
- 10) Gillespie MB, O'Malley BW, Francis HW. An approach to fulminant invasive fungal sinusitis in the immunocompromised host. Arch Otolaryngol Head Neck Surg 1998;124(5): 520-6
- 11) Gillespie MB, Huchton DM, O'Malley BW. Role of middle turbinate biopsy in the diagnosis of fulminant invasive fungal rhinosinusitis. Laryngoscope 2000;110(11):1832-6.
- Blitzer A, Lawson W. Fungal infections of the nose and paranasal sinus. Otolaryngol Clin North Am 1993;26(6): 1007-35.
- 13) Langford JD, McCartney DL, Wang RC. Frozen sectionguided surgical debridment for management of rhino-orbital mucormycosis. Amer J Opthal 1997;124 (2):265-7.
- 14) Kohn R, Helper R. Management of limited rhino-orbital mucormycosis without excenteration. Ophthalmology 1985; 92 (10):1440-4.
- 15) Barrett JP, Vardulaki KA, Conlon C, Cooke J, Daza-Ramirez P, Evans EG, et al. Systematic review of the antifungal effectiveness and amphotericin B formulations. Clin Therapeutics 2003;25(5):1295-320.
- Adler-Moore J, Proffit RT. Effect of tissue penetration on AmBisome efficacy. Curr Opin Investig Drugs 2003;4(2): 179-85.
- 17) Waitzman AA, Birt BD. Fungal sinusitis. J Otolaryngol 1994;23(4):244-9.
- 18) Kennedy CA, Adams GL, Neglia JP, Giebink GS. Impact of surgical treatment on paranasal fungal infections in bone marrow transplant patients. Otolaryngol Head Neck Surg. 1997;116 (6 Pt 1):610-6.