

이성 뇌농양의 임상양상과 치료

안중기 · 황찬호 · 배우용 · 이현직 · 강명구 · 김리석

Clinical Presentations and Managements of Otogenic Brain Abscess

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-ABSTRACT-

Background and objectives : Otogenic brain abscess is the second most common intracranial complication of middle ear infections next to meningitis. With advanced radiologic technique and early antibiotic treatment, the incidence has been reduced. It is, however, one of the most significant life-threatening complications of otologic disease. Its mortality rates have been reported as up to 10%. The purpose of this study was to review the clinical presentations and to investigate prognostic factors of otogenic brain abscess. **Materials and method** : The study group consisted of 7 patients whose otogenic brain abscesses were diagnosed and treated, between January 1994 and July 2004, retrospectively reviewed in Departments of Otolaryngology and Head & Neck Surgery, College of Medicine, Dong-A university. There were 6 males and 1 female, and their ages ranged from 12 to 66 years, mean 41.9 ± 22.2 years. The diagnosis and postoperative follow-up were based on the computed tomography and magnetic resonance imaging. **Results** : The most common presenting symptom was headache with otorrhea. Other generalized symptoms and signs included otalgia, fever and symptoms of increased intracranial pressure, 6 patients, even had altered mental status. Primary brain computed tomography could diagnose brain abscess in 6 patients, another 1 patient could be diagnosed by additional magnetic resonance imaging 5 days later. One of these was associated with acute otitis media, two with mastoidectomy, and four with chronic otitis media with cholesteatoma. There were eroded tegmens by cholesteatoma in all cases, but direct invasion of cholesteatoma into brain parenchyma was not found in any case. Aggressive medical or surgical management were performed in all cases. In addition to mastoidectomy, neurosurgical operation was performed in 6 patients. Six patients had no neurological sequelae, but one case, diagnosis was too late, had permanent hemiparesis. **Conclusion** : Early diagnosis was the most important prognostic factor of otogenic brain abscess. Magnetic resonance imaging should be more preferred than brain computed tomography for early diagnosis of brain abscess. (J Clinical Otolaryngol 2005;16:240-246)

KEY WORDS : Brain abscess · Otitis media · MRI.

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서론

대상 및 방법

(otogenic brain abscess) 1994 1 2004 7 7

0.3~ 0.5%, 3% 80% (1-3)

(computed tomography : CT) (magnetic resonance imaging : MRI)

10% 4 (case 2, 3, 4, 7)

4)5) (case 5) 3

(case 6) 10

가 4

5)6) 가 1 2 1 4

가 6, 가 1 41.9 ± 22.2

(Table 1).

Table 1. Summary of 7 patients with otogenic brain abscess

Case	Sex/Age	Major symptoms & signs	Etiology	Radiology	Location
1	M/50	H/OR/F/D/OT	COM with cholesteatoma, postoperative complication	CT	Right cerebellum
2	M/38	H/OR/F/D/S	COM with cholesteatoma	MRI	Right cerebellum
3	M/66	H/OR/F/D/S/HP	COM with cholesteatoma	CT, MRI	Left temporal lobe
4	M/50	H/OR/F/D/S	COM with cholesteatoma, postoperative complication	CT, MRI	Left frontal, temporal lobe
5	M/12	H/OR/F/L	COM with cholesteatoma	CT, MRI	Left occipital, temporal, parietal lobe
6	F/64	H/OR/OT	AOM	CT	Left temporal lobe
7	M/43	H/OR/F/D/OT	COM with cholesteatoma	Initial CT (-), MRI (+)	Right temporal lobe

AOM : acute otitis media, COM : chronic otitis media, H/OR/F/D/L/S/HP/OT : headache/otorrhea/fever/drowsy/lethargy/seizure/hemiparesis/otalgia

Table 2. Pre and postoperative I.V antibiotics treatment of otogenic brain abscess

Case	Preoperative antibiotics	Postoperative antibiotics	Culture result
1*	Ampibactam, cefotaxime, metronidazole, amikacin for 2 wks ceftriaxone, amikacin for 2wks		<i>Proteus mirabilis</i>
2	Ampicillin, cefolatam, amikacin for 4days	Ampicillin, cefolatam, amikacin/ ceftriaxone, cefolatam, amikacin/ cefolatam/ each for 2wks	no growth
3	Ceftriaxone, metronidazole for 1wks tobramycin, ceftriaxone for 3days ceftriaxone, amikacin, chloramphenicol for 4days	Cefotaxime, clindamycin for 6wks	<i>Proteus mirabilis</i>
4	Augmentin, arbekacin for 3days	Teicoplanin for 2 wks vancomycin for 4wks	MRSA
5	Ceftriaxone, metronidazole, vancomycin for 1wks ceftriaxone, metronidazole, ciprofloxacin for 2wks	Ciprofloxacin for 4wks	<i>Pseudomonas aeruginosa</i>
6	Ceftriaxone, vancomycin for 10days	Ceftriaxone, vancomycin for 11 days stop for 5days due to pancytopenia cefotaxime for 2wks	no growth
7	Ampibactam, micronomicin, cefotaxime for 5days	Ceftizoxime, amikacin for 1wks isepamicin, cefolatam for 1wks cefotaxime for 2wks	<i>Burkholderia cepacia</i>

* : He did not undergone operation, I.V antibiotics were only used

Table 3. Symptoms and signs of the otogenic brain abscess

Symptoms and signs	Case (n)*	(%)
Otorrhea	7	100
Headache	7	100
Nausea/Vomiting	7	100
Mental disturbance	6	85.7
Fever	6	86.7
Seizure	3	42.8
Otalgia	3	42.8
Left hemiparesis	1	14.3
Total (n)	7	

* : Scores are not mutually exclusive

Table 4. Etiology of otogenic brain abscess

Etiology	Case (n)	(%)
Chronic otitis media with cholesteatoma	4	57.1
Tympanomastoid operation (iatrogenic)	2	28.6
Acute otitis media	1	14.3
Total (n)	7	

6 , 7

가 6 , 3 , 3 ,
가 1 (Table 3).
4 (57.1%)

가
(Table 2). 4~6 . 1 (14.3%)
(28.6%) 2

결 과 (Table 4).

가

Table 5. Location of otogenic brain abscess

Location	Case (n)*	(%)
Temporal lobe only	3	42.8
Cerebellum	2	28.6
Temporal lobe+frontal lobe	1	14.3
Temporal lobe+parietal lobe +occipital lobe	1	14.3
Total (n)	7	100

* : Scores are not mutually exclusive

Table 6. Combined problems with otogenic brain abscess

Additional pathology	Case (n)*	(%)
Meningitis	3	42.8
Subdural empyema	2	28.6
Epidural abscess	1	14.3
None	2	28.6
Total (n)	7	

* : Scores are not mutually exclusive

가 5 (71.4%) ,
 가 2 (28.6%) (Table 5).
 2 (28.6%) 가 ,
 가 3 (42.8%),
 가 가 2 (28.6%),
 1 (14.3%) (Table 6).
 5
 , 1
 , 1
 가 5
 (Fig. 1).
 5 , 가
 1 , 2 ,
 2 .

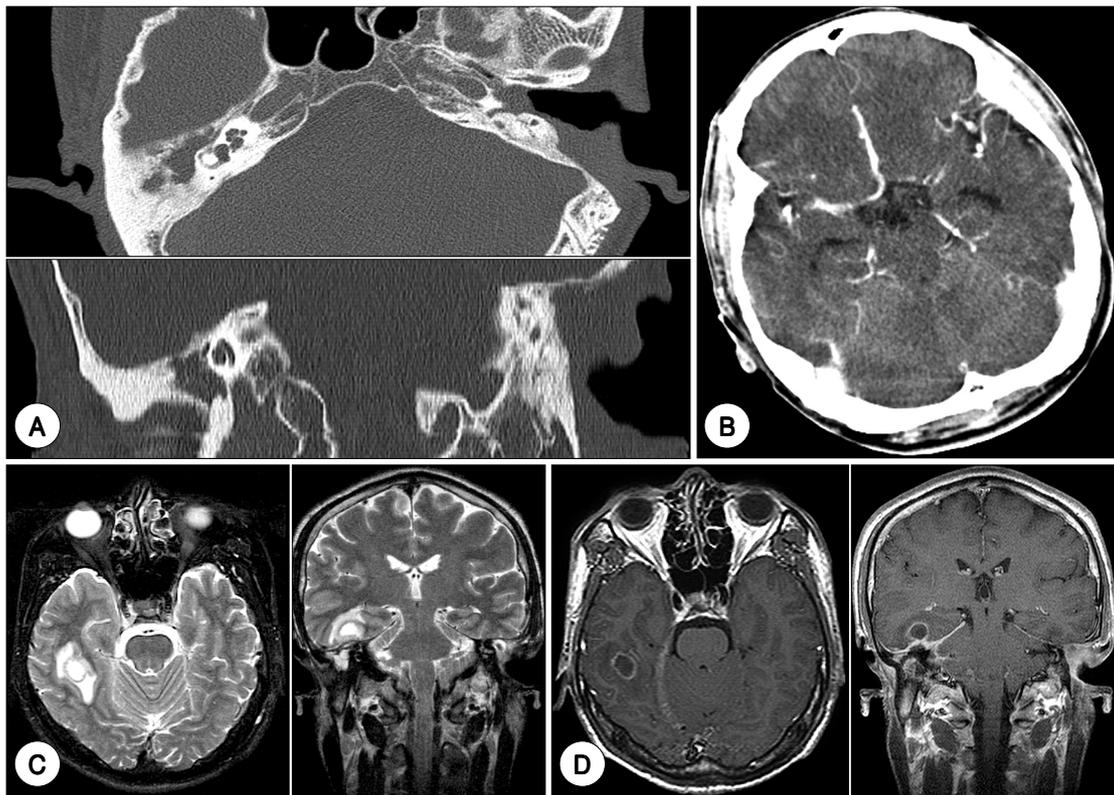


Fig. 1. Imaging study in a case of brain abscess (case 7). A : Temporal bone CT ; Total haziness in right mastoid cavity and tegmen erosion are seen, B : Brain CT (enhance) ; There is no abnormal enhancement in brain parenchyma, C : Brain MRI, T2-weighted image ; Irregular high signal lesion in right temporal lobe is seen, D : Brain MRI, T1-weighted contrast image ; Low signal lesion with thin rim enhancement in right temporal lobe is seen.

Table 7. Summary of hospital management

Case	Surgical management	Medical management
1	none	Antibiotics 4weeks
2	SM with T0	Preoperative antibiotics 4 days
3	Abscess excision (translabyrinth approach)	postoperative antibiotics 6weeks
4	SM with T0	Preoperative antibiotics 2weeks
5	Craniectomy, left temporal 2day later, revision ICH removal	postoperative antibiotics 6weeks
6	Craniectomy	Preoperative antibiotics 3days
7	right frontal, temporal, parietal	postoperative antibiotics 6weeks
8	Craniectomy	Preoperative antibiotics 3weeks
9	left temporal, occipital 1week later, SM with T0	postoperative antibiotics 4weeks
10	SM with T1	Preoperative antibiotics 10days
11	Craniotomy, left temporal	postoperative antibiotics 4weeks
12	CWD with T0	Preoperative antibiotics 5days
13	Craniotomy, right temporal	postoperative antibiotics 4weeks

SM : simple mastoidectomy, CWD : canal wall down mastoidectomy, T0 : Tympanization, T1 : tympanoplasty type 1, ICH : intracranial hemorrhage

1, 1, glu, 4)7)8)

4 (Table 7).

Proteus 2, Staphylococcus(MR-SA) 1, Pseudomonas 1, Burkholderia 1, 가 2 .

가 1, 1, , 1, 가, 9), , , , 1, 가, 5)9), 2 가, 가, 1, 7, 가, 6 (85.7%), 1970, , Sennaroglu 4), 고 찰, 10%, 50, 가, 가, 1, 1~2, 가, 가, 4), 4319, 857, T1, 0.16%, , T2, 0.78%, 80%, 10)11), 20, 10%, Sennaro-

가 39% ,
 Proteus 2 , Staphylococcus(MRSA)
 가 1 , Pseudomonas 1 , Burkholderia 1
 가 2 28.6%
 36 가 .
 . Kulali ¹⁴⁾ 가 .
 . Singh and Maha-
 raj¹⁵⁾ and Mathews and Marus¹⁶⁾
 Murthy ¹²⁾ 가
 Sen- , Murthy ¹²⁾
 naroglu ⁴⁾ 54%, 44%,
 2% , 4
 Kaplan¹³⁾ 4~15% , 1
 3 , 2
 2 , 2 , 1 , 1
 4 , 4~6
 , 5
⁵⁾¹⁰⁾ cefotaxime
 4 , 1
 2 , 13
 가 가
 2
 가 가
 가 가 ⁵⁾ Group A 35
 streptococcus, Streptococcus pneumoniae가 ,
 Bacterioides fragilis가
 Pseudomonas aeruginosa, Proteus mirabilis ,
 가
 . ⁴⁾⁵⁾ Sennaroglu ⁴⁾

결론

가

중심 단어 :

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