

비정형성 및 악성 뇌수막종의 임상분석 : 52례 연구*

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= Abstract =

Clinical Analysis of Atypical and Malignant Meningiomas :
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Objective : Atypical and malignant meningiomas(AM, MM) are known to be rare and show aggressive behavior. Limited data are available concerning the clinical features, effectiveness of surgical removal and role of radiation therapy with AM, MM. The authors report our experience of AM, MM, with respect to clinical features.

Methods : Twenty - four cases of AM and 28 cases of MM, who were operated between 1988 and 1999 were retro-spectively studied review of medical records and radiological findings. These were compared with control group of 24 cases of meningiomas manifestating usual clinical course, which are selected arbitrarily among operative cases between Apr. 1999 and Dec. 1999. Mean follow - up periods were 26(1 - 91) months for AM and 23(1 - 62) for MM. Authors analyzed the prognostic factors for survival, and statistical analysis were accomplished by Kaplan - Meier method and log - rank test.

Results : Differences of clinical features between control groups and these atypical and malignant meningioma group were not significant. However, the location of MM was frequent in non - basal area($p < 0.01$). In AM, there were 4 patients of recurrence, and 3 patients of mortality. Among mortality cases, only one patient died of tumor progression, the other patients died of other causes. The survival at 2 year and 5 year in this group were 88% and 74% respectively, and in MM, 11 patients died due to tumor progression and 2 had spinal metastasis. The survival at 2 year and 5 year were 72% and 20%, respectively. For extent of resection, total removal(Simpson grade 1 or 2) was less often achieved in MM compared with AM(50% vs. 83%). Extent of resection of tumor and postoperative radiation therapy did not affect survival in both AM, MM.

Conclusions : Clinical behavior of AM showed more benign than that of MM. Prognostic factor for survival is not related extent of resection of tumor and postoperative radiation therapy. However, further investigation with long - term follow - up and additional cases is mandatory.

KEY WORDS : Atypical meningioma · Malignant meningioma · Radiation therapy · Prognostic factor · Extent of resection.

서 론

2)7)8)

, 1~10%

13~20%

5)7)8)11)

연구대상 및 방법

1988 1999
28
1999 4 12
30

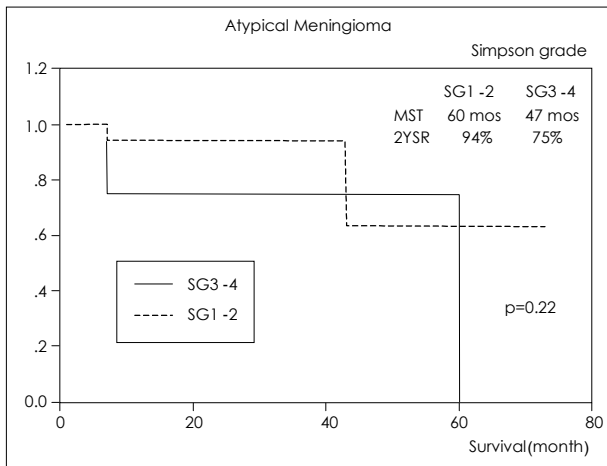


Fig. 1. Charts showing the survival distribution for low(SG1 - 2) and high(SG3 - 4) Simpson Grade Scale (p=0.22) of atypical meningioma. SG : Simpson Grade, MST : mean survival time, 2YSR : 2 year survival rate, mos : months.

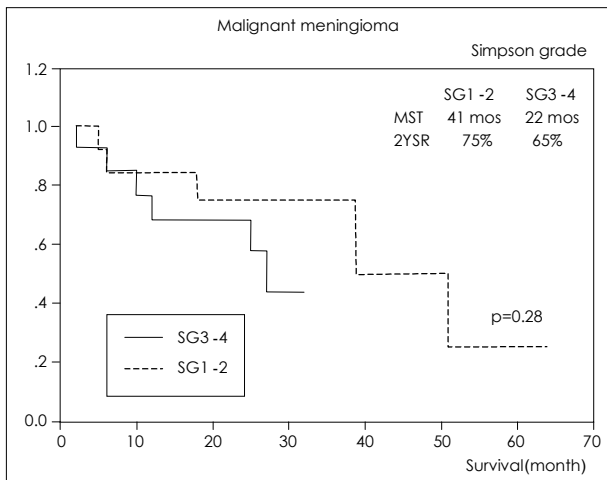


Fig. 2. Charts showing survival distribution for low(SG1 - 2) and high(SG3 - 4) Simpson Grade Scale (p=0.22) of malignant meningioma. SG : Simpson Grade, MST : mean survival time, 2YSR : 2 year survival rate, mos : months.

1993
WHO
가 1988 1993
WHO
(computed tomography)
(magnetic resonance image)
, Kaplan - Meier
(Simpson grade scale)
log - rank
test

결 과

1988 1999
722
52 7.2% 3.3%, 3.9%
53.7, 49.6 44
(p=0.63, p=0.54).
9 : 15, 16 : 12
7 : 23 가
가 (p=0.60).
(basal location) (non - basal location)
8 : 20
14 : 17

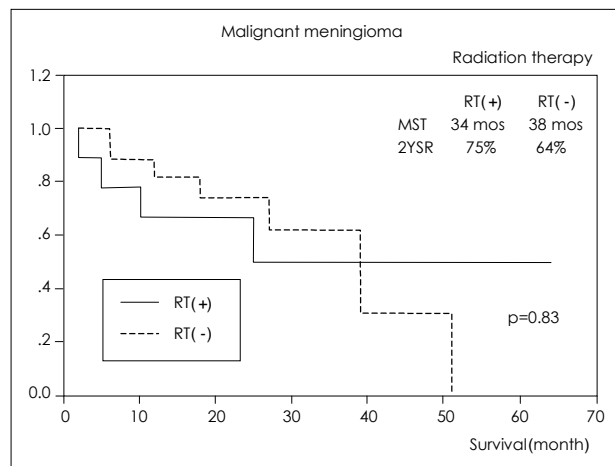


Fig. 3. Charts showing survival distribution for postoperative radiation therapy of malignant meningioma. RT : Radiation therapy, MST : mean survival time, 2YSR : 2 year survival rate, mos : months.

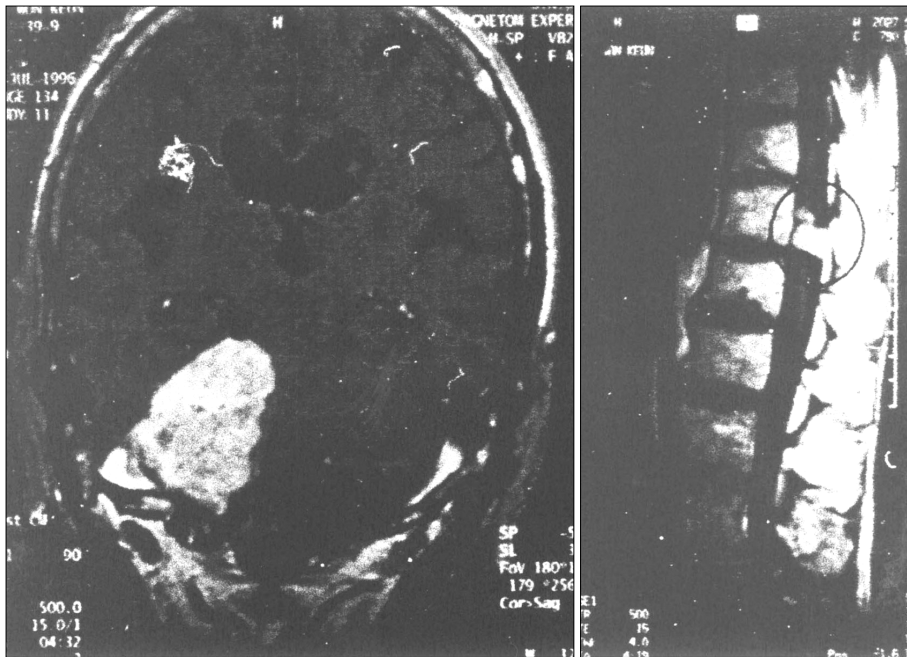


Fig. 4. Left : T1-weighted coronal enhanced magnetic resonance image showing well enhanced petroclival malignant meningioma compressing the brain stem. Right : T1-weighted sagittal spinal enhanced image demonstrating well enhanced lobulating mass suspicion of thoracic spinal metastasis.

(p=0.01), Simpson grade 12
 10 : 14 , grade 8 , grade 2 , grade 2 20
 (p=0.62). (Simpson grade ,)가 가 ,
 23 2 94%,
 (1~62) , 28 11 75% (p=0.22)(Fig.1).
 36 , 2 19 (68%),
 72%, 5 20% . 11 9 (38%)
 , 2 가 50Gy (50~61Gy)
 가 (Fig. 4). 34
 26 (1~91) , 4 ,
 , 24 3 . 38
 1 , 1 . 2
 , 1 75%, 64%
 2 (neurofibromatosis type2) (p=0.83)(Fig. 3).
 50Gy
 88 , 2 88%, 5
 74% . 2 가 ,
 Simpson
 grade 5 , grade 가 9 , grade 2 , grade
 11 , grade 1 (Simpson grade ,)
 14 가 .
 (Simpson grade ,)
 41 , (Simpson grade to) 22
 , 2 75%, 65% 20%
 (p=0.28)(Fig. 2). 5)7)8)11)

고 찰

15~25%
 가 가 . 10~
 , 1~11%

Table 1. Clinical manifestations

Symptome and Sign	No. of patients		
	AM (n=24)	MM (n=28)	C (n=30)
Headache	9	6	12
Motor weakness	6	12	7
Visual impairment	5	2	3
Personality change	1	1	1
Memory disturbance	2		
Seizure	1	2	2
Speech problem		2	
Hearing problem		2	1
Urinary incontinence		1	
Gait disturbance			2
Incidental finding			2

AM : Atypical meningioma
MM : Malignant meningioma C : Control

Table 2. 수술에 의한 종양의 제거정도 (Simpson grade scale)

	AM (n=24)	MM (n=28)	C (n=30)
Grade 1	12	5	25
Grade 2	8	9	2
Grade 3	2	2	3
Grade 4	2	11	
Grade 5		1	

AM : Atypical meningioma MM : Malignant meningioma

40%
1582
87.6%,
2.4%
4~10
가
(Table 1),
(p=0.01),
10 : 14
(p=0.62).
가
(Table 2).

(CT, MRI)
(Simpson grade),
(malignant transformation)
(loss of architecture),
(increased cellularity), (nuclear
pleomorphism), (mitotic figure),
(focal necrosis), (brain invasion)

16)
가
3)
Kallio 27 935
1 89%, 15 63%
, Sankila 31 1986
1 83%, 15 71%
6)13). Black 10 43~77%
, McCathy
5
5
69% ,
55%, 75% 1)9).
5 20%, 74%

41 22
가 4
Milosevic 59 (19 , 42
)
50Gy
megavoltage radiation 39 (66%)
20 (34%)

50Gy
 5 42%, 50Gy 0%
 10) Goldsmith
 53Gy
 63%, 53Gy
 17%
 5)
 50~61Gy 50Gy
 Milosevic¹⁰⁾ Goldsmith⁵⁾
 50Gy, 53Gy 가
 가

한 한

- : 2000 12 18
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