

성인 두개인두종 연속 100예의 장기 치료 성적*

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= Abstract =

Long-term Results of Surgical Treatment of Craniopharyngioma : Experience with 100 Adult Patients

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Objectives : The authors present a retrospective analysis of 100 consecutive adult patients harboring craniopharyngiomas who underwent microsurgical resection between 1981 and 1999 to assess the long-term outcome of surgical treatment and to determine the most optimal management strategy.

Methods : The extent of surgical removal was divided into four categories ; GTR(gross total removal), RSTR(radical subtotal removal), STR(subtotal removal), and PR(partial removal). The median follow-up period was 50 months(4 - 198). CT scan and/or MR imaging and hormonal status were evaluated to the last follow-up.

Results : Visual disturbance was the most common presentation, which was improved in 42 cases and aggravated in 19 cases following the operation. Hypopituitarism was detected in 56 patients preoperatively, 82 during the immediate postoperative period, and 76 at the last follow-up. Improvement of pituitary function was not observed in any of these patients. Twenty of 100 patients showed recurrence at the mean of 27 months(3 to 196). The median progression-free survival(PFS) time of all patients was 145 months and 5-year PFS rate was 74%. Five-year PFS rate of GTR or RSTR group(71%) was significantly higher than that of STR or PR group(30%)($p=0.01$). Postoperative radiation therapy significantly prolonged the PFS from 94 months in non-radiation group to 182 months($p=0.002$). However, there was no statistical difference in number of patients who required hormonal replacement therapy between radiation and non-radiation group.

Conclusion : Visual disturbance can be improved by early diagnosis and surgical decompression. GTR or RSTR in selected patients is considered a proper surgical strategy. Post-operative radiation therapy for residual tumors must be considered, although the ideal timing of radiation therapy is to be determined.

KEY WORDS : Craniopharyngioma · Adult · Surgery · Radiation.

서 론

가 가
가 .
가

가

(2000 - 1)

2.5~4%

4)

가

가

100

대상 및 방법

1. 대상 환자군

1981 3 1999 5
15
100
3 가
가 14 100
114

(4 ~ 18)

2. 종양 적출 정도 판정

4가
(gross total removal),
(pituitary stalk)
(radical subtotal removal),
10%
(subtotal removal), 10%
(partial removal)

3. 호르몬 장애의 판정

3

1.005

3000cc

4. 통계적 분석

chi - square test
(linear logistic model)
Kaplan - Meier method
log - rank test

결 과

1. 임상상 및 방사선학적 소견

100

2.6%
37 (17~58) 63 : 37
(Fig. 1).
(62%), (17%), (14%),
(7%)
67 (7), 63
58
39 가
13 , 7 , 4
36
가 20 44
36
28 , 9 , 7 ,
6 2가 가 14
23
X 32

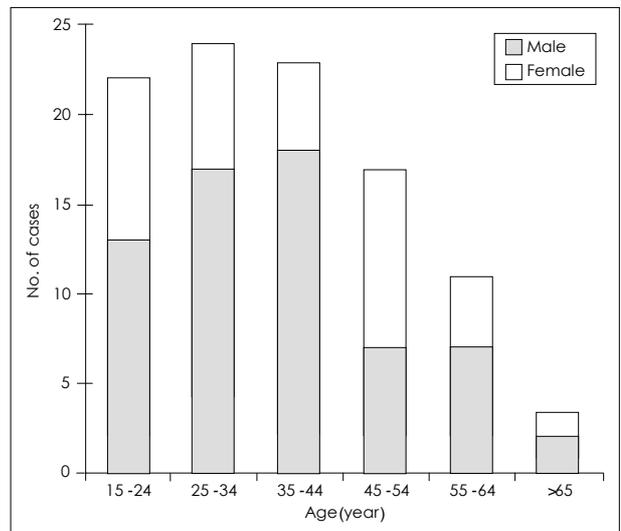


Fig. 1. Age and sex distribution of craniopharyngioma patients (N=100).

58 ,
 X
 78 가
 49 .
 가 40 가 ,
 가 35 , 가 16 ,
 가 6 ,
 3 가 . 89
 , 38 , 29
 .
 가 62 가 ,
 31 , 7 가
 . 34mm (18~74),
 41 ,
 9 , 50
 가 .

2. 수술적 치료
 100 114
 (pterional approach) 51 , (sub-
 frontal approach) 27 ,
 가 15 , (transsphenoidal app-
 roach) 9 , (transcallosal approach)
 6 ,
 가 6 .

가
 , 가
 , 3
 .
 6 4 , (germ
 cell tumor) 가 2
 . 114 35
 , 22 , 37 ,
 20 . 14
 8 , 6
 . 64 (,
)

Table 1. Cause of incomplete removal*(N=64)

	No. of patient
Adhesion to adjacent structure	44
Adhesion to hypothalamus	24
Adhesion to brainstem	9
Adhesion to stalk	6
Adhesion to other structures	5
Inadequate exposure	9
Calcification	7
Vessel encasement	4

* : Cases of transsphenoidal approach and biopsy or cyst aspiration only were excluded.

44 가
 9 , 7 ,
 4 .
 24 가 (Table 1).

3. 방사선 치료

34
 가 6 ,
 가 5 , 가 13 ,
 가 10
 가
 (p=0.006, Likelihood ratio test for trend). (conventional external beam radiation)

2 32 5400
 5940cGy , 4000cGy

4. 정위적 방사선 수술

가 2
 2
5. 수술 후 결과
 (operative mortality) 3
 . 2 , 1
 3 Karnofski Per-
 formance Score가 50 가
 ,
 60
 4 .

가 20
가
76
23 9
14
77
32 45
56 82
가 76
가 20
(p=0.24).

(Table 2),

가
(linear logistic model)

가
(p=0.02).

34 27
7 66
49 17
(p=0.56).

Table 2. Incidence of postoperative hypopituitarism according to the extent of surgical removal and radiation therapy(N=100)

Treatment	Postoperative hormonal status		% of preserved or improved pituitary function
	Stationary or improved	Aggravated	
Extent of removal			
Gross total	5	30	14
Radical subtotal	4	18	18
Subtotal	8	19	30
Partial or biopsy	7	9	44

30 (42%), 14 (19%)
28 (39%) 가
(7) 가

6. 수술 후 재발 및 재성장

100 20
27 (3~196)
(recurrence free survival) 145 , 5
74%, 10 67%
34 1
66 19
20 18 2
가 18 4
20
가 6
182 , 5
96% , 1
94 , 5
60% 가 (p=0.002)(Fig. 2).
가 34
29 7
108 , 5 72%
17 3
87 , 5 71%

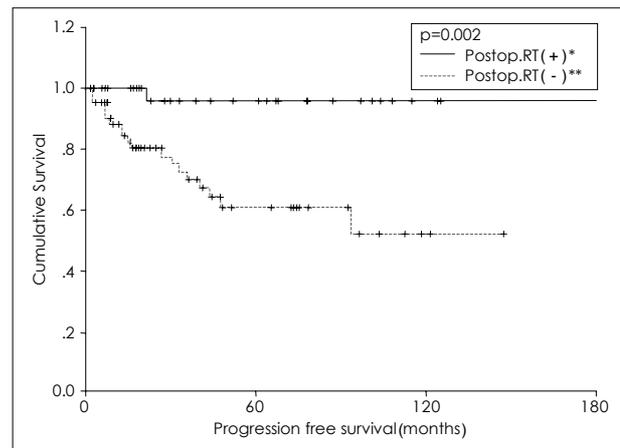


Fig. 2. Recurrence free survival curves(Kaplan-Meier) according to the patient who underwent postoperative radiation therapy or not(N=100) (p=0.02).
* : RT(+) : postoperative radiation therapy was done
** : RT(-) : postoperative radiation therapy was not done

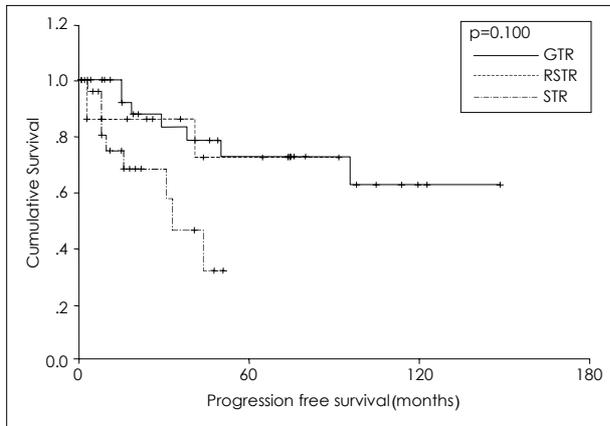


Fig. 3. Recurrence free survival curves(Kaplan-Meier) according to the extent of removal between gross total removal and radical subtotal removal(N=100).

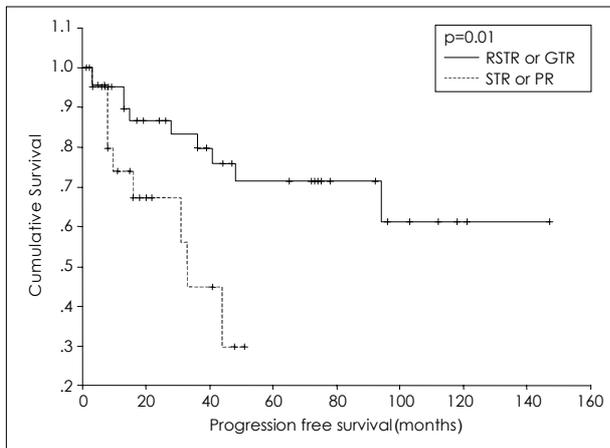


Fig. 4. Recurrence free survival curves(Kaplan-Meier) according to the extent of removal between radical subtotal removal or more and subtotal removal or less.

가 (p=0.10)(Fig. 3).
20 9
32 , 5 30%

(p=0.01)(Fig. 4).

고 찰

1. 수술적 치료 및 수술 치료 결과

가 가 1-3)5)9-11)15)16)
19)22)24)28) 가 가

가
19% 42%
가
가
2 가
가
가 2)3)5)9)10)14)17)19)21-23)25)26)28)

2)9)11)13)15)16)26)28)
가
2)8)9)13)26)28) Yasargil 28) Hoffman 8)9)
Fahlbusch 6) 45.7%
가
6)13)24)28)
6)9)20-22) 1986

Baskin Wilson²⁾

가
(91% , 3%)

가
가
가
가

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