

말단비대증의 경접형동 미세수술 결과

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The Outcome of Transsphenoidal Microsurgery for Acromegaly

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Objective : The authors present a retrospective clinical analysis of transsphenoidal surgery for acromegaly including preoperative factors determining the therapeutic outcome.

Methods : Forty-three patients (24 females, mean age 45.3 years) harboring growth hormone (GH)-secreting adenomas (13 microadenomas and 30 macroadenomas) were treated between the years 1987 and 2001. The mean duration of follow-up was 69 months.

Results : The average estimated duration of symptoms prior to diagnosis was 8 years. The control rate following surgery was 51% (22 out of 43 cases). Of the patients with postoperative persistent disease, 11 patients had had additional bromocriptine therapy with or without irradiation, and consequently 7 patients achieved biochemical remission. The overall remission rate of multimodality treatment was 67%. The preoperative GH value, tumor size, extrasellar extension of tumor, the number of surgeons, and the extent of the surgical removal were significant univariate predictors of outcome ($p < 0.05$).

Conclusion : This study suggests that surgical outcome for acromegaly could be achieved by an experienced neurosurgeon. In the group of the patients of large or invasive adenomas, with the less probability of surgical control, adjunctive medical or radiation therapy to control GH hypersecretion should be considered.

KEY WORDS : Acromegaly · Pituitary neoplasm · Treatment outcome · Somatotropin.

서 론

대상 및 방법

1987 2001 14

가 19
가 24 , 22 72 45.3
. 43 ,
 ,
 ,
 . 1990
2,9,15,20,23) 가 , 4 156 69.4
 , 가
가 5ng/ml
8,18)
10mm
(tumor grade)

(tumor stage) Hardy 1) 11 (26%) .

(sublabial) 13 (30%) 30 (70%) 가

가 , 22 (51%), 21 (49%) .

22 (51%) 가 8

(Table 1).

가 (pseudo-capsule) 6 가

2 - -

- 1 .

95% 90% , 18 15 (83%)

21 16 (76%) , 9 6

(67%) , 13 8 (62%) ,

11 6 (55%) .

15 10 (67%)

21 15

1

14.3~150ng/ml

51.2ng/ml ,

31 15 (48%)가

10 (32%) 가

32 (74%)

IGF - 1(insulin - like growth factor - 1) ,

2~3

21 15

1

14.3~150ng/ml

51.2ng/ml ,

31 15 (48%)가

10 (32%) 가

32 (74%)

IGF - 1

Table 1. Preoperative characteristics of the 43 patients with acromegaly

Characteristic	No. of cases (%)	Mean	Range
Age at diagnosis (yrs)	43	45.3	22-72
Sex ratio M/F	19/24 (44/56)		
Follow up (months)	43	69.4	4-156
Initial growth hormone (ng/ml)	43	51.2	14.3-150
Symptom and sign			
Duration of acromegaly (yrs)	43	7.8	1-20
Headache	18/43 (42)		
Visual disturbance	15/43 (35)		
Arthralgia	13/43 (30)		
Diabetes mellitus	21/43 (49)		
Hypertension	9/43 (21)		
Hyperprolactinemia	11/43 (26)		
Pretreatment hypopituitarism	15/31 (48)		
Tumor morphology			
Micro-/macroadenoma	13/30 (30/70)		
Extrasellar extension	21 (8*)/43 (49)		

* : cases of cavernous sinus invasion

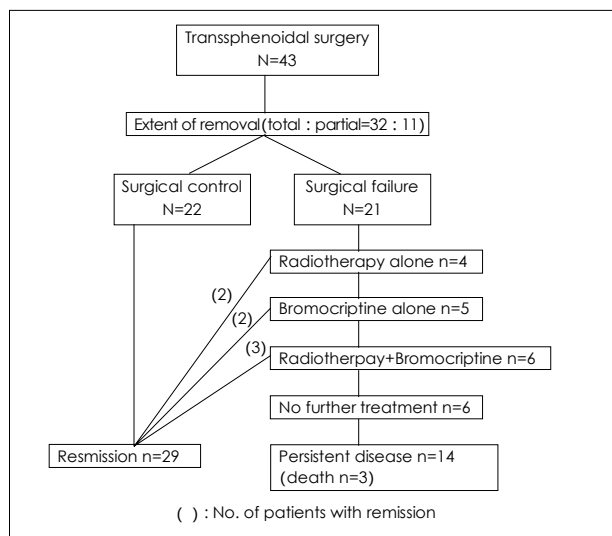


Fig. 1. Flow diagram of postoperative adjuvant therapy and treatment results in 43 patients who underwent transsphenoidal surgery for acromegaly.

가 가 22 51%
15
가 4 bromocriptine
가 5 , 가
6 . 7 (47%)가 가
29 (67%) (Fig.)

1). 4
, 2
, 1
3 가
,
,
50ng/ml

16% 가 가
, 가
가 (Table 2).

고 찰

1,2,3,18)

가

가

1,21 - 23)

Table 2. Analysis of prognostic factors for endocrinological remission in 43 acromegalic patients

Factors	Remission		p-value
	Yes	No	
Size of tumor			0.033
Microadenoma	12	1	
Macroadenoma	17	13	
Tumor grade			0.104
Sellar floor intact	17	4	
Sellar destruction	12	10	
Tumor stage (extrasellar extension)			0.010
Yes	15	3	
No	14	11	
Surgical resection			0.000
Complete	27	5	
Partial	2	9	
Number of surgeon			0.010
Single	28	9	
Multiple	1	5	
Preoperative GH level			0.010
<50ng/ml	19	3	
≥ 50ng/ml	10	11	
Duration of acromegaly			0.735
≤ 8yrs	18	10	
>8yrs	11	4	
Hypopituitarism at diagnosis			0.704
Yes	11	4	
No	10	6	
Age			0.235
≤ 45yrs	18	6	
>45yrs	11	8	

IGF - 1 가

가 21)
24)

가

가
, 가 2ng/ml 가
가
3,8,16,17,19)
1,9,10,12,13,15,23,24)

가 5ng/ml

67%

가

가 가 .
가
, , Melmed 16)
70%
가 가
. 2,4,7,12,22-24)
가
1,19) 43
32
22
가 17) 15 7 가
가

결 론

65%¹⁶⁾
가 가
가 1,4,14,19,20)
12,20)
2
가 가
6,9)
13,25)

- : 2002 3 14
 - : 2002 6 8
 - : 700 - 712 194
- : 053) 250 - 7332, : 053) 250 - 7356
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- Octreotide 가 5,11,15) 16)
가 15 2 , 2 ,
3
가
가 21~31mU/l 4,5,20) 11
bromocriptine 12)
bromocriptine 가 가

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