

자발성 시상부 출혈에서 뇌정위적 흡인술 및 보존적 치료의 임상분석

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= Abstract =

Clinical Analysis of Stereotactic Aspiration and Conservative Management in Spontaneous Thalamic Hematoma

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Objective : The purpose of this study is to review our experience with spontaneous thalamic hemorrhage. Clinical outcome of patients was brought about by comparing stereotactic aspiration and conservative medical therapy.

Methods : The study consists of seventy - three cases with spontaneous thalamic hemorrhage which were treated from the period of Jan. 1993 to Dec. 1999. Thirty - eighty patients were treated with computed tomography (CT) guided stereotactic aspiration and thirty - five patients were treated conservatively. We compared the factors affecting treatment and the factors are as follows : age & sex, conscious level on admission, hematoma volume, hematoma sites, presence of ventricular penetration.

Results : The results in the thirty eight stereotactic aspirated cases for the 6 months from onset are as follows : good recovery or moderate disability in 43%, severe disability in 32%, vegetative state in 11%, dead in 13% respectively. The clinical result was more favorable in stereotactic aspiration, with 11 - 30cc hematoma volume, extend to internal capsule of hematoma, poor conscious level on admission than conservative medical therapy. But age & sex, conscious level on admission, presence of ventricular penetration were not influential in the statistical outcome between stereotactic aspiration and conservative medical therapy.

Conclusion : Treatment modality of spontaneous thalamic hemorrhage is still controversial. But stereotactic aspiration is more recommended for improvement therapeutic results than conservative treatment or open craniotomy in case of 11 - 30cc hematoma volume, extend to internal capsule of hematoma and poor conscious level on admission.

KEY WORDS : Thalamic hemorrhage · Stereotactic aspiration · Conservative medical therapy · Urokinase irrigation.

서 론

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가

가

3)4)11)13)

1)2)3)4)11)16)

Table 1. Neurologic grading of admission and outcome

Neurologic grading according to the level of consciousness		Glasgow Outcome Scale (GOS)	
1	Alertness or confusion	1. Good	Resumption of normal life
2	Somnolence	2. Moderate	Disable but independent
3	Stupor	3. Severe	Conscious but dependent
4a	Semicoma without herniation*	4. Vegetative	Unresponsive & speechless
4b	Semicoma with herniation	5. Dead	
5	Deep coma		

*a) unilateral or bilateral mydriasis (over 5mm) and no reaction to light
 b) unilateral or bilateral decorticate or decerebrate rigidity

38 35

Table 2. Age and sex distribution of conservative care and stereotactic aspiration

Age	Sex		Total
	Male	Female	
30 - 39	1(1)*	1(3)	2(4)
40 - 49	3(2)	4(3)	7(5)
50 - 59	4(7)	6(6)	10(13)
60 - 69	6(7)	5(6)	11(13)
70 - 79	2(1)	3(2)	5(3)
Total	16(18)	19(20)	35(38)

Number in parentheses represent stereotactic aspirated cases

연구대상 및 방법

1993 1 1999 12

urokinase

38 35

가

$$\text{Volume} = \frac{1}{6} \times A \times B \times C \quad (A, B, C : 4)5)11)16)$$

10cc

drowsy

70

Leksell system stereotactic

coordinate frame

Entry point

Kocher 's point 9)11). Aspiration kit

10cc 가

9F silastic catheter 3 way
 2~3ml 3,000~6,000

IU urokinase 2

4

2~3

Kanaya 8)

Glasgow Outcome Scale(GOS) 6

(Table 1).

Type

Type , Type ,

Type

Chi - square test

연구 결과

1. 연령 및 성별분포

35 79 59.2
 50 60 가 47 (64.4%) 가
 58.3

60.1

1 : 1.14(34 : 39) 가

(Table 2).

2. 내원 당시의 의식수준과 치료결과

Kanaya grade 2, 3

75.3% 가 grade 1, 2

GOS 2
grade 3, 4
가
grade 5 3
GOS가
(p<0.05)
(Table 3).

3. 혈종량과 치료결과

3 62cc 14cc 6~
10cc 가 24 가 , 50% 12
83% GOS가 1~3 가 . 11~
30cc 82%
GOS가 1~3 14%
31cc GOS
가 (Table 4).

4. 출혈부위에 따른 치료결과

Type
89% GOS 1 3 가 . Type
GOS가

Table 3. Neurological grade at admission and GOS of conservative care and stereotactic aspiration

Neurological grade	Glasgow Outcome Scale					Total
	1	2	3	4	5	
1	3(1)*	1	1			5(1)
2	3(3)	4(5)	6(7)	1	1	15(15)
3		2(2)	3(10)	3(2)	2(1)	10(15)
4a		(1)	(2)	(1)	1	1(4)
4b			(1)	1	1(1)	2(2)
5					2(1)	2(1)
Total	6(4)	7(8)	10(20)	5(3)	7(3)	35(38)

p=0.008 : Neurological grade is compared stereotactic aspiration with conservative care

*Number in parentheses represent stereotactic aspirated cases

Table 4. Hematoma volume and GOS of conservative care and stereotactic aspiration

GOS	Hematoma volume					Total
	1 - 5ml	6 - 10ml	11 - 15ml	16 - 30ml	31 - 62ml	
1	4	2(1)*	(3)			6(4)
2	5	2(4)	(3)	(1)		7(8)
3	4	5(6)	1(7)	(5)	(2)	10(20)
4		2(1)	1(1)	1(1)	1	5(3)
5		1	1(1)	3(1)	2(1)	7(3)
Total	13	12(12)	3(15)	4(8)	3(3)	35(38)

p=0.043 : Hematoma volume is compared stereotactic aspiration with conservative care

*Number in parentheses represent stereotactic aspirated cases

Type , GOS 4,5가 60%
가 (Table 5).

5. 뇌실 내 출혈 동반 정도에 따른 치료결과

72.5%
3 37%
4
가 , 4
69.9% GOS 4, 5
28%
4
(Table 6).

6. 수술시기와 혈종제거율 및 치료결과

24 9
80% , 24 3
21 80% 가 14 , 4
8 5 80%
가 . 24
GOS 1, 2 3 , GOS 3, 4 5
, 24 3 GOS 1, 2
6 , GOS 3, 4 15 4

Table 5. GOS related to types of hematoma in cases of conservative care and stereotactic aspiration

Type	GOS					Total
	1	2	3	4	5	
a	1	3(1)*	2(1)			6(2)
b	2	2(1)	3(1)	1	1	9(2)
a	1	(2)	1(4)	(1)	1	3(7)
b	1(4)	2(3)	1(13)	1(2)	2	7(22)
	1	(1)	1	1	2(1)	5(2)
			2(1)	2	1(2)	5(3)
Total	6(4)	7(8)	10(20)	5(3)	7(3)	35(38)

a : no evidence of intraventricular hemorrhage

b : presence of intraventricular hemorrhage

*Number in parentheses represent stereotactic aspiration cases

Table 6. GOS depending on ventricular hemorrhage of conservative care and stereotactic aspiration

VH	GOS					Total
	1	2	3	4	5	
VH(-)	3(1)*	5(2)	3(2)	1(3)		12(8)
VH(+)	1(3)	2(6)	7(18)	5(1)	8(2)	23(32)
4th VH(+)	1	1(2)	3(8)	1(4)	2(5)	8(19)

VH : represent intraventricular hemorrhage

*Number in parentheses represent stereotactic aspirated cases

Table 7. Outcome and removal rate of hematoma according to time interval from hemorrhage to operation time

Time	GOS					Total	Removal rate of hematoma			
	1	2	3	4	5		<50%	50 - 80%	80%<	Total
<24Hours	1	2	4	1	1	9	5	4	0	9
24 - 72Hours	1	5	13	2	0	21	3	7	11	21
72Hours <	2	1	3	0	2	8	1	2	5	8
Total	4	8	20	3	3	38	9	13	16	38

p=0.021 : GOS is compared with time interval from hemorrhage to operation time

p=0.43 : removal rate of hematoma is compared with time interval from hemorrhage to operation time

Table 8. Causes of death in cases of conservative care and stereotactic aspiration

Causes of death	No. of cases
Cerebral edema	4(1)*
Pneumonia	1(1)
Heart failure	1(1)
GI bleeding	1
Total	7(3)

*Number in parentheses represent stereotactic aspiration cases

8. 합병증 및 사망률

2 (6%)
가
1
5 가
1 , 2 , 2
(Table 8).

GOS 1, 2 3 , GOS 3, 4 3

(Table 7).

7. 중재적 예후

73 13.7%가 GOS 1, 20.5%가 GOS 2, 41.1%가 GOS 3, 11%가 GOS 4, 13.7%가 GOS 5

Dead 10 9 , Vegetative 8 7

가 stupor

10cc 36% GOS 3, 4가

GOS 3

가 4

16cc 18 1

GOS 2 7 GOS 3, 3 GOS 4, 7

GOS 5 , 39%가 GOS 2,3

8

3cm 가 27 20

7 16 (60%)

Good Severe

14

가 59 59%

가 GOS 1, 2 60 33%, 70

17% 가 70

57%가 가 GOS 4, 5

고 찰

1)3)6)7)8)

12 19%

20%

가

4)6)9)

가

McKissock

14)

가

Cuatico ³⁾, Paillas ¹⁸⁾

Kaneko ⁶⁾

가

Kanno ⁷⁾

3cm

135 47

(35%)

vegetative

Kwak ¹⁰⁾

11

18 6

excellent 가 21%, dead가 14%

good 21%, fair가 45%, poor

3

15ml

Backlund Von Holst²⁾가

가

urokinase

15

80%

, 18

50~70%,

5

40%

가

. Niizuma¹⁷⁾

가

1)3)5)7)11)

가

가

5)7)11)14)

(38 27)

가

urokinase

urokinase가

가

, Wakasugi²⁰⁾,

가

Walshe²¹⁾

가

Nakahara¹⁶⁾

Higgins⁴⁾

4

가

Lussenhop¹³⁾

Kaufman⁹⁾

24

48

Kanaya grade 3, 4

Matsumoto¹⁵⁾

grade

가

7

Wakasugi²⁰⁾, Kwak¹⁰⁾

6

가

10cc

24

Walshe²¹⁾

33mm

100%

가 55.2% 가

, 27mm

가

Kwak¹⁰⁾

30mm

가

1)3)4)11)18)

3~3.3cm

(

2

15cc

),

45 75%

72.5%

Wakasugi²⁰⁾, Kwak¹⁰⁾

가

13)17)19). Matsu-

가

Kameyama⁵⁾

moto¹⁵⁾

1

1

4

가 37%

가

가

10cc 가
 2cc가
 10 13.7% 10
 5 50cc 8

6
 38 urokinase 35

1) 50 60 가 64.4% 가
 , 1 : 1.14 가

2) Kanaya grade 3,4

GOS가
 3) 11 30cc
 GOS가

4) GOS가

5) 72.5% 4
 GOS 4, 5가 69.9% 가

6) 가

- : 2000 6 2
- : 2000 8 28
- : 100 - 196 67가 18 - 79

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