

방사선학적 출혈양상에 근거한 뇌간출혈의 분류에 따른 임상결과*

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= Abstract =

Clinical Outcomes according to Radiological Classification of Brainstem Hemorrhages

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Objective : Brainstem hemorrhages usually result in much higher mortality and morbidity than any other intracranial vascular lesions. The purpose of the study is to evaluate the relationship of the radiological classification of the lesions and the clinical outcomes, and to evaluate the value of such classification on the choice of management modality.

Method : Thirty seven patients with primary brainstem hemorrhage were managed medically or surgically between Oct. 1995 and Mar. 1998. The lesions were classified as two groups based on radiological findings as follows : Focal subependymal hematoma(group I, n = 7) and diffuse tegmentobasilar hemorrhage(group II, n = 30). The outcomes at discharge were retrospectively reviewed according to such classification.

Result : The most common clinical pictures and radiological findings in each group were as followings : 1) Group I : focal compressive lesion which displaces rather than destroys brain tissue. It occurs in a younger age group and causes neurological deficits which are often partially reversible. Operative hematoma evacuation was performed in 43.3%. Their mean improved Glasgow Coma Scale(GCS) score was 4.7. 2) Group II : hypertensive brain stem hemorrhage. It usually causes a diffuse lesion occurring in an older age group and most often associated with profound irreversible neurological deficits which are often fatal. Operative hematoma evacuation was performed in 16.7%. Their mean improved GCS score was 1.4. In both conservatively treated group I and II has no significant clinical improvement.

Conclusion : Although there is an overlap among them and the size of the group is small, the pathophysiologic classification of this lesion based on clinical features and radiological findings may be useful for decision of treatment method.

KEY WORDS : Brain stem hemorrhage · Focal subependymal hematoma · Diffuse tegmentobasilar hemorrhage.

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6)9)15)22). Kanno 12)

, Lassiter

가 16)

1998

가 가

37
1)
(focal subependymal brainstem hematoma)
2)
(diffuse tegmentobasilar hypertensive hemorrhage)

결 과

1. 환자의 특성

Ta-

7, 30

7

II

GCS

12.4, 5.4

가 가

II

대상 및 방법

1995 10 1998 3 37

Table 1. Characteristics of patients

	Focal subependymal hematoma (Group I*)	Diffuse tegmentobasilar hypertensive hemorrhage (Group II†)
Number of patients	7	30
Male/female	5/2	16/14
Age range(mean)	39 - 60(49.6)	22 - 75(56.3)
Hypertension hx.	1(14.3%)	23(76.7%)
Onset(acute/insidious)	5/2	29/1
Mean GCS(admission)	8.6	4.5
Radiologic findings		
Focal/diffuse	7/0	4/26
Location		
Midbrain	2	4
Pons	4	25
Medulla	1	1
Mean volume(cc)	8.6	18.4
IVH‡ (%)	0	17(56.7%)
Operation(%)	3(43.3%)	5(16.7%)

*Group I : focal subependymal brainstem hematoma
†Group II : diffuse tegmentobasilar hypertensive hemorrhage
‡ IVH : Intraventricular hemorrhage

I (focal subependymal brainstem hematoma) II (diffuse tegmentobasilar hypertensive hemorrhage)

37 29

8

3 I 5 II

3

(transvermian approach)

(sub -

occipital craniectomy)

5

, Leksell system

X,Y,Z

6

abc/6

GCS

Table 2. Summary of surgically treated patients

No.	Sex/Age	Group	Operation	Interval (Sx-Op)	Hematoma removal	Admission	GCS preoperation	Discharge	GOS discharge
1	M/58	I	Open	4	Complete	7	6	13	4
2	F/39	I	Open	5	Complete	10	9	13	5
3	M/60	I	Open	7	75%	7	6	12	3
4	M/48	II	Stereo	8	75%	4	3	8	3
5	M/55	II	Stereo	4	50%	7	4	9	2
6	M/53	II	Stereo	11	Complete	4	3	4	2
7	F/61	II	Stereo	5	75%	4	4	5	1
8	F/68	II	Stereo	4	50%	4	4	4	1

*Abbreviations : Open = Open craniotomy with hematoma evacuation ; Stereo = Stereotactic hematoma aspiration ; Sx = symptom ; Op = operation

Table 3. Presenting symptoms and clinical signs

Presenting symptoms	No.	Neurologic Sign	No.
Decreased mentality	26	Cranial nerve palsy	31
Headache & dizziness	5	Dysarthria	17
gait disturbance	3	Quadripareisis	21
Diplopia	2	Hemiparesis	16
Hemisensory change	1	Hypesthesia	5
		Ataxia	3

Table 4. Comparison of average GCS improvement between conservative and surgical treatment

	Conservative Tx. (aGCS)	Surgical Tx. (aGCS)
Group I*		
Admission	9.0	8.0
Discharge	10.6	12.7
Improvement	1.6	4.7
Group II†		
Admission	4.5	4.6
Discharge	5.8	6.0
Improvement	1.3	1.4

* Group I : Focal subependymal brainstem hematoma
 † Group II : Diffuse tegmentobasilar hypertensive hemorrhage
 Abbreviation :
 aGCS = Average Glasgow Coma Scale ; Tx = Treatment

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2. 임상증상 및 신경학적 징후

가 5 , 가 3 , 가 2 , 가 31 , 가 17 , (Table 3).

3. 치료 결과

8 , II I GCS Glasgow Outcome Scale(GOS) 가 (Table 4), GCS

Table 4 I GCS 가 4.7 가

고 찰

3 13%

가 , 가 4)5)6)9)11)15)22) . 1971

Lassiter 16)

가 가 , 가

1.8cm

90%

9)14)21),

가 14)22)27)

1. 임상-병리학적 연관성(clinicopathological correlation)

(tegmentobasilar type)

8)9) . Goto 8) 38 18

, 11

22

11

. Komiyama

14) 32

3

. 1

3.0 cm

2.0cm

3.5cm

, 3

2.5cm

32

1

11

, 2

11 ,

3 10

가 26 가

가 31 가

(tegmentum) 가

가

가

(Table 3).

11

Magoun 18)

(miosis)

29

15

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 • : 1999 10 19
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 : 02) 2001 - 2158, : 02) 2001 - 2157

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