

A Clinical Study on the Seizure and Spontaneous Lobar Intracerebral Hemorrhage

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Background and Objective : Epileptic seizures are frequent complication of lobar hemorrhage. We investigated the factors affecting development of epilepsy following spontaneous lobar ICH.

Methods : From January 1986 to July 1999, 114 patients were admitted to Chungnam National University Hospital with spontaneous lobar ICH. We analyzed 75 patients. Excluded were no follow-up(8 patients) and patients died within few days(31 patients). All the patient was followed up at least two years aside from two patients who underwent epileptic seizure and died five and eight months later each. Medical history was obtained through medical record and by telephone interview. Statistical analyses were performed using Chi-square test, Student's t - test, Fisher's exact test.

Results : Seizure occurred in 19 patients. As three patients had previous history of seizures, 16 patients(22.2%) showed first onset early- and late- seizures. Early seizure occurred in 14 patients(19.4%). Three out of 14 were heavy alcoholics. Five patients developed late recurrent seizure 61 days to 800 days after the early seizure. Late seizure with no acute seizure occurred in two patients. The types of seizure were diverse as generalized tonic clonic seizure(10), partial seizure with secondary generalization(5), and complex partial seizure(1). The common risk factors for lobar ICH were hypertension(HT), arteriovenous malformation(AVM), and excessive use of alcohol. We could not find any causes in 23 patients. Although size of hematoma, age of onset, sex, incidence of HT or AVM were not different between patients with seizure and without seizure, the history of excessive alcohol drinking was more frequent in patients with seizure. Five patients with late recurrent seizure had ICH involving temporal area.

Conclusions : This study suggests that the risk of seizure in patients with lobar ICH was increase in chronic alcoholics and patient with late recurrent seizure had ICH frequently involving temporal area.

Key Words : Epilepsy, Seizure, Spontaneous Intracerebral Hemorrhage

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Table 1. Clinical features of patients

Age	Sex	Chief complain	Cause	ICH site	ICH volume	History of Sz	Interval ICH-Sz	Interval Sz-Sz	Sz type
41	M	Seizure	Unknown	Frontal	12	Y	0		GTC
46	M	Seizure	AVM	P-O	16	Y	0		GTC
49	F	Seizure	Unknown	Frontal	6	Y	0		GTC
73	F	Mental change	HT	T-P	15	N	1		GTC
82	F	Mental change	HT	Temporal	54	N	1		P-G
59	M	Mental change	HT	T-P	15	N	3		CPS
40	M	Headache	Unknown	P-O	16	N	1		P-G
21	M	Mental change	AVM	Frontal	45	N	1		GTC
67	M	Seizure	Unknown	Parietal	30	N	0		P-G
53	M	Headache	HT	Temporal	18	N	1	61	GTC
46	M	Headache	Other	Temporal	NA	N	1	800	GTC
37	F	Seizure	HT	T-P	30	N	0	722	P-G
33	M	Headache	Unknown	T-P	24	N	5	186	GTC
41	M	Seizure	HT	T-P	6	N	0	310	GTC
55	M	Seizure	HT, Alc	T-P	6	N	0		GTC
29	M	Seizure	Alc	Frontal	12	N	0		GTC
68	M	Seizure	Alc	Frontal	3.6	N	0		P-G
17	M	Mental change	AVM	T-P	24	N	180		GTC
68	F	Motor weakness	Others	Frontal	15	N	2000		GTC

AVM: arteriovenous malformation, Alc: excessive use of alcohol, P-G: partial seizure with secondary generaion, GTC:generalized tonic clonic seizure, CPS:complex partial siezure, NA: not available

114 가
 10 8 2 31
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 2 2 75 32 Student's t-test, Chi-square test, Fisher's exact test
 43
 , Moyamoya 72
 6,10 17 82 55.4
 (mean 55.4±16.9) 가 40 가 32
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 1 121 g (2 1.7) , Moyamoya 1 ,
 1 300 g (2 4.2) 가 23 .72 16
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13 5.8% , -
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 가 3 , 가 1 , - 가 7 46.2% , 22.2%
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 7 , 16 , 61 - 800 (Mean : 415 days)
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 , ,
 N - methyl-
 D - aspartate ,

Table 2. Risk factor and seizure occurrence

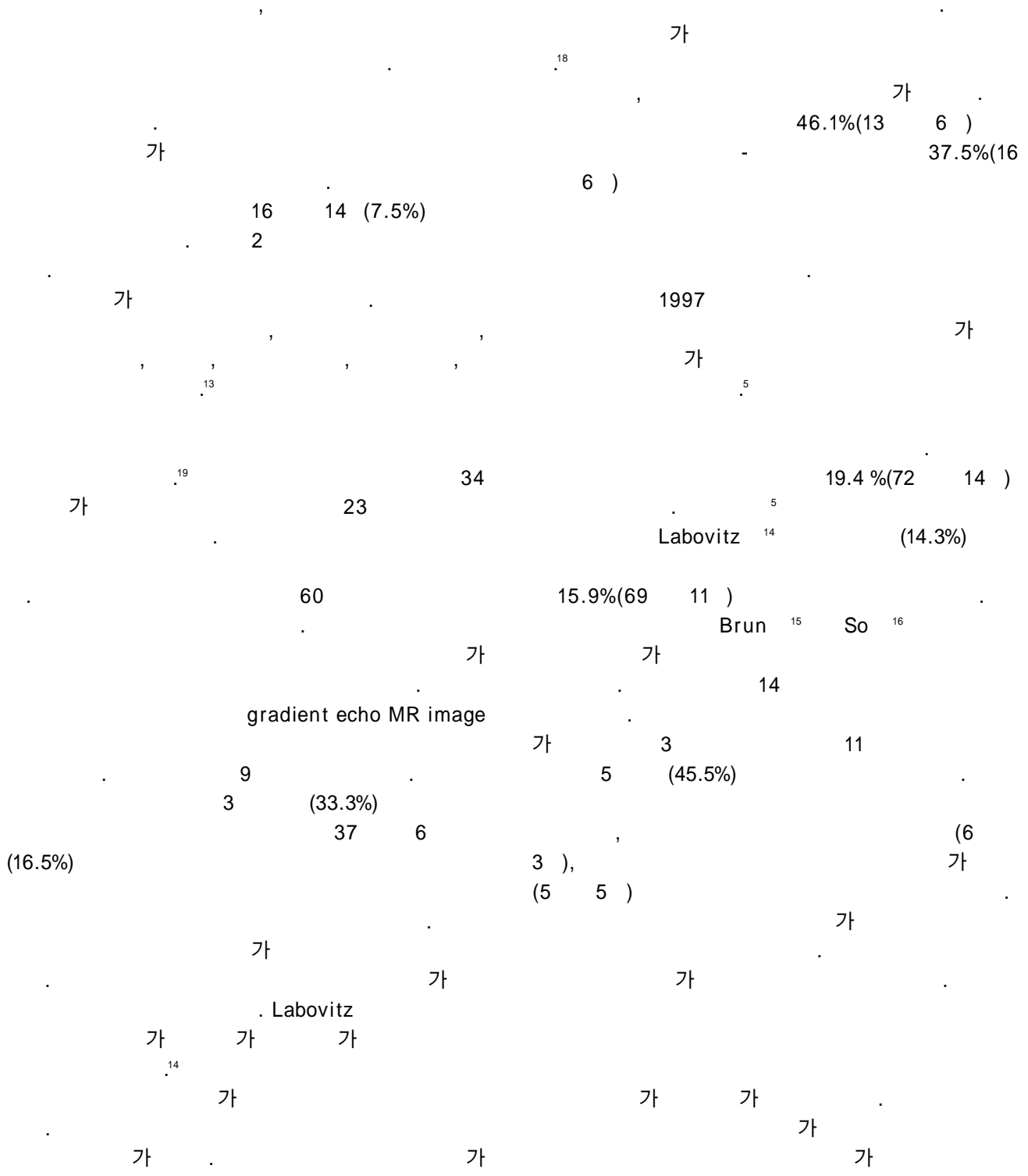
Risk factors	Sz(-)	Sz(+)	p-value
Sex F	26	5	0.274
M	30	11	
AVM (-)	50	13	1.000
(+)	6	3	
Alc (-)	56	13	0.009
(+)	0	3	
HT (-)	25	10	0.259
(+)	31	6	
Age(years)	57.64 ± 16.86	49.31 ± 19.36	0.096
Volume(cc)	18.97 ± 30.90	15.22 ± 17.10	0.639

AVM: arteriovenous malformation,
 Alc: excessive use of alcohol, HT: hypertension,
 Sz: seizure

Table 3. Hemorrhage site and seizure

Sz	Frontal	Parietal	Temporal	Occipital	T-P	P-O	F-T	F-T-P	T-P-O	Total
Sz(-)	7	16	7	6	9	8	1	1	1	56
Sz(+)	6	1	2		6	1				16
Total	13	17	9	6	15	9	1	1	1	72

T-P: temporo-parietal, P-O: parieto-occipital, F-T: fronto-temporal,
 F-T-P: fronto-temporo-parietal, T-P-O: temporo-parieto-occipital, Sz: seizure



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