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## Prognosis of Temporal Lobectomy for Temporal Lobe Epilepsy Patients with Mental Retardation

Sang-Sub Jang, M.D., Jang-Joon Lee, M.D., Ji-Eun Kim, M.D., Sang-Doe Yi, M.D., Young-Choon Park, M.D.

Department of Neurology, Keimyung University School of Medicine

**Background :** For decades, patients with epilepsy and mental retardation (MR) have been considered as a relative contraindication for focal resective epilepsy surgery. However, considerable debate exists concerning whether the presence of MR is a contraindication for epilepsy surgery or not. We examined the postsurgical seizure outcome of temporal lobe epilepsy (TLE) according to preoperative intelligence scores and the relationship between preoperative intelligence and postsurgical seizure outcomes of TLE. **Methods :** We investigated 131 patients with TLE divided into two groups according to standard IQ ranges and seizure outcomes were compared by Engel’s classification. **Results :** The percentage of seizure free patients after surgery was 66.4% in all patients and the percentage in patients with and without MR were 60.7% and 68%, respectively. The age at seizure onset was significantly different between the MR group and non the MR group. However, other factors which have been thought to affect the intelligence of patients with TLE were not significantly different between the two groups. The best postoperative seizure outcome was shown in the borderline group, where the frequency of hippocampal sclerosis and age at seizure onset were significantly higher compared to the other groups. **Conclusions :** Although preoperative MR has been regarded as a predictor for a poor prognosis of surgical outcome, our results suggest that MR alone is not a contraindication for epilepsy surgery. Therefore, epilepsy patients with MR who meet other inclusion criteria for epilepsy surgery should not be rejected for epilepsy surgery. J Korean Neurol Assoc 18(5):595~600, 2000

**Key Words :** Mental retardation, Mesial temporal lobe epilepsy, Surgical outcome.

가 가

40% 가  
 1886 Victor Horsley 가  
 Penfield Jasper가 (neuroimaging)  
 (Magnetic Re- (inclusion criteria), (exclusion  
 sonance Imaging; MRI), criteria)  
 70 )  
 가

Manuscript received December 30, 1999.  
Accepted in final form June 29, 2000.

\* Address for correspondence

Sang-Sub Jang, M.D.

Department of Neurology,  
 Keimyung University School of Medicine  
 Dongsan-dong 194, Chung-ku, Taegu, 700-712, Korea  
 Tel : +82-53-250-7340 Fax : +82-53-250-7840  
 E-mail : Neurojang@yahoo.co.kr

6 가

7 가

8 (exclusion criteria)

9 가

2 가

2 Palm Desert (second Palm Desert conference) 가

1993 1 1997 7 가

(anterior temporal lobectomy with amigdalohippocampectomy: ATL) 131 가 28 ( 1 ) , 가 가 103 가 12 가 9 가

2 가

MRI(Simense, Henkestrasse, Germany), (Video-EEG monitoring system, Telefactor, West Conshohocken, USA) (Brain-Single Photon Emission Computed Tomography, ADAC, California, USA) , Wada ( ) . KWIS(Korean-Weschler Intelligence Scale) 48 가

strip grid

KWIS (standard IQ ranges) (70~79), (80~89), ATL 17 (60.7%), 2~4 가 KWIS 가

2 가

KWIS chi-square t-test P<0.05

MRI 13.8±7.0 , 14.3±7.7 가 71 가 72 가 28 (21.4%) 10.3±5.5 , 12.4±7.5 가 19 (67.9%), 가 18 (64.3%) 가 103 (78.6%) 가 29.9±6.7 , 14.8±7.0 , 14.9±7.7 , 가 52 (50.5%), 가 54 (52.4%) 가 (p=0.02) 가 (Table 1). 4 가 ATL (Table 2). 가 (N=28) ATL (N=103) 66.4% (Table 3). 가 70.8% 가 59.5% 가 (p=0.05) (Table 4).

**Table 1.** Summary of demographic and medical characteristics for the patients

Factors	Total (n=131) (Mean±SD)	MR (n=28) (Mean±SD)	Non-MR (n=103) (Mean±SD)	P value
Age (years)	28.3±7.3	22.6±6.6	29.9±6.7	
Age at onset (years)	13.8±7.0	10.3±5.5	14.8±7.0	0.02*
Duration (years)	14.3±7.7	12.4±7.5	14.9±7.7	0.13*
Operation site (Lt:Rt)	(72:59)	(18:10)	(54:49)	0.26†
MTS (%)	54.2	67.9	50.5	0.1†

\* by Student's *t* test, † by *chi*-square test

SD, standard deviation; MR, mental retardation; Non-MR, non mental retardation; MTS, mesial temporal sclerosis

**Table 2.** Postoperative seizure outcome as a function of presurgical IQ level

IQ category	Number (%)	Seizure free (%)
<70	28(21.4)	60.7
50*~59	9(6.8)	55.6
60~69	19(14.5)	63.2
70~79	24(18.3)	70.8
80~89	32(24.4)	59.4
90>	47(34.4)	68.9
Total	131(100)	66.4

\* lowest IQ is 50

**Table 3.** Postoperative outcome of temporal lobe epilepsy with and without mental retardation (MR)

	Total	P value*	
		MR	Non-MR
		IQ<70	IQ>70
Number of patients	131	28	103
Seizure free rate (%)	66.4	60.7	68

\* by *chi*-square test

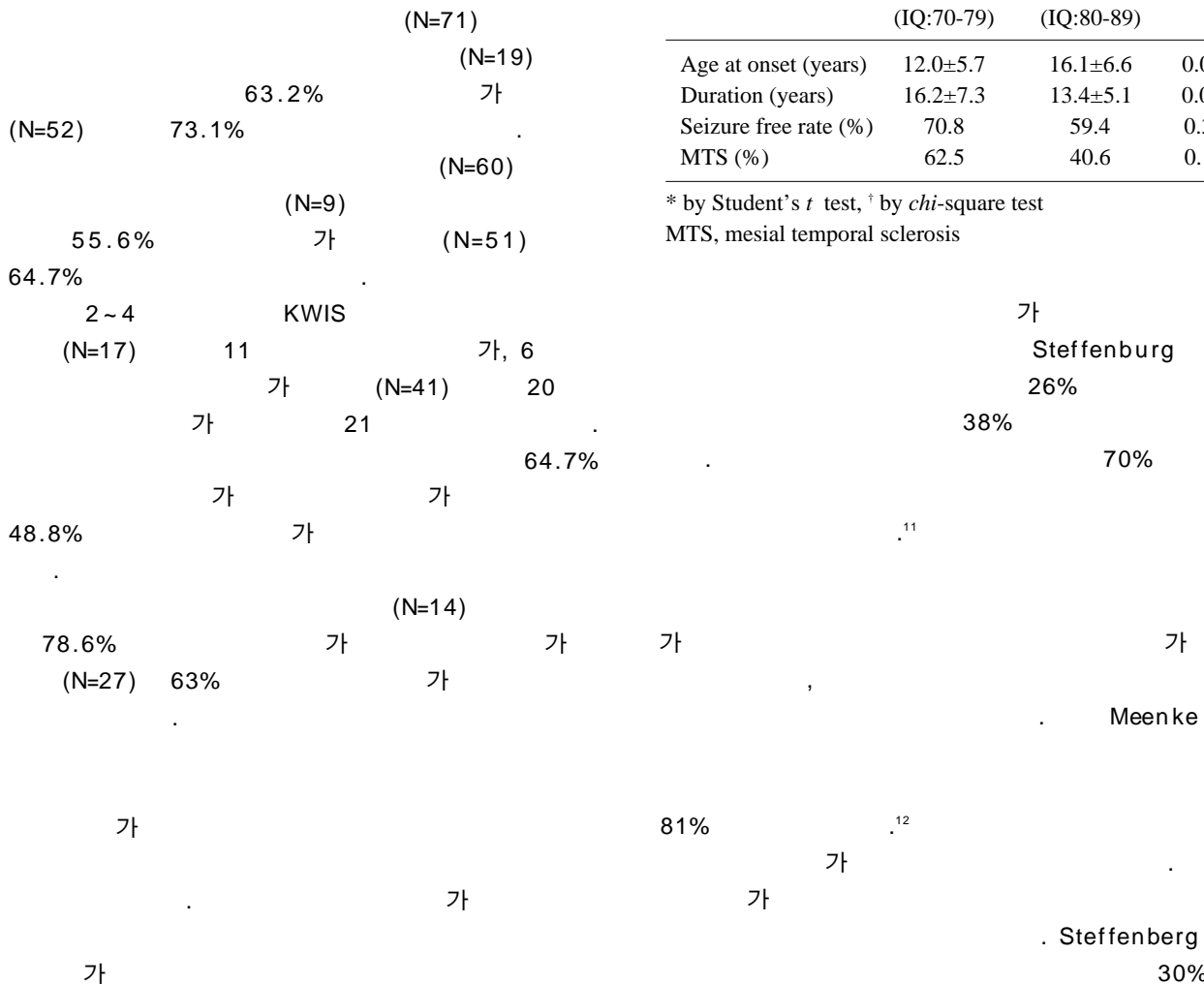
MR, mental retardation

**Table 4.** The comparison of characteristics between borderline and lower average intelligence group

	Borderline (IQ:70-79)	Low average (IQ:80-89)	P value
Age at onset (years)	12.0±5.7	16.1±6.6	0.02*
Duration (years)	16.2±7.3	13.4±5.1	0.09*
Seizure free rate (%)	70.8	59.4	0.38†
MTS (%)	62.5	40.6	0.11†

\* by Student's *t* test, † by *chi*-square test

MTS, mesial temporal sclerosis



가<sup>11</sup> 가? 가? 가? 가? 가? 가<sup>22</sup> Jensen Larsen(1979) 23  
 가 13 (56.5%) 62.7%<sup>17</sup>

<sup>13</sup> Singhi et al (Full scale IQ)가 8 16 가 가 가  
 et al 가 <sup>14</sup> Rodin 가<sup>8</sup> 가 가  
 10 가 (Table 3). 가 가  
 , Jensen Larsen 74 <sup>16</sup> , , , ,  
 14 <sup>23</sup> 가<sup>24,25</sup>  
 23 가  
 (Table 1).

가 가 가 가 가 가  
 가 가 가 (Table 2).  
 (N=58) 가 가 가 가 가  
 64.7% KWIS 53.4% (N=17) 가

Chelune et al<sup>8</sup> 가 가 가  
 (epileptic encephalopathy) 가

Morrell kindling (mirror focus) (subclinical seizure) 가<sup>26</sup>  
 가 가 가 가  
<sup>21</sup> 가 가 가 가 가 가 가 가  
 가 가 가 가 가 가 가 가

가  
West , Lennox-Gastaut  
, Stuge-Weber  
(infantile hemiplegia seizure syndrome),  
(hemimegalencephaly), Rasmussen  
가

27,28

가

가

가

가

가

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