

P300

P300
Nicdet Viking Quste

82 52

P300 P300

(TMI- A TMI- B) Stroop () WMS-

(P 0.01)

P300 (t=22.990 P 0.01) (t= 9.699)

P 0.01) P300 TMI- A (r=0.481 P 0.01

r=0.245 P 0.05) P300 (r=- 0.338 P 0.01)

P300

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Correlation between cognitive function and event-related potential P300 in male long-term hospitalized patients with schizophrenia GAO Mao-jun, XIAO Wen-huan, TANG Xiao-wei, et al. Wutaishan Hospital of Medical College of Yangzhou University, Yangzhou 225009, China

Abstract Objective To investigate the relationship between cognitive function and event-related potential P300 in male long-term hospitalized patients with schizophrenia. **Method** Totals of 82 male long-term hospitalized patients with schizophrenia and 52 healthy controls were recruited. The event-related potential P300 was analyzed by the United States Nicolet Viking Quest evoked potential instrument. The cognitive function was tested by animal naming test category fluency test digital cancellation test trail taking test (TMI- A TMI- B) stroop test (word colour word-colour interference test) block design test and WMS- spatial span test. **Results** There were significant differences between patient group and control group in all items of cognitive function assessment scales (P 0.01). There were longer latency of P300 (t=22.990 P 0.01) and lower amplitude of P300 (t= 9.699 P 0.01) in patient group than that in control group. The P300 latency was positively correlated with digital cancellation test and the score of TMI- A in patient group (r=0.481 P 0.01 r=0.245 P 0.05). Moreover P300 amplitude was negatively correlated with digital cancellation test in patient group (r=- 0.338 P 0.01). **Conclusion** The male long-term hospitalized patients with schizophrenia still have cognitive impairment even when their psychiatric symptoms are stable. The latency and amplitude of event-related potential P300 may be an electrophysiological marker of cognitive function in schizophrenic patients which were correlated with the results in the cognitive assessment scales.

Keywords Schizophrenia Event-related potentials P300 Cognitive function

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48.0%~53.3%

P300

45.9%~70.5%

P300

1-2

P300

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4

P300

1
1.1 2015 8 ~2016 7 Q5~100 Hz 600 ms 5 K

(1)
(DSM 5)

(2) 5 80%

(3) P300 (P300

(4) (1)) (P300

(2) (3)

(4) 1.3 SPSS 16.0

(5) ± (x̄ ± s)

82 (52.0 ± 7.5) t

(8.9 ± 3.0) (28.35 ± 6.85)

(47.241 ± 21.99) mg/d

Pearson

P 0.05

(PANSS) 91-120 7 61-90 24

60 51 (58.51 ± 18.94) 2

(10.83 ± 4.75) (18.28 ± 8.73) 2.1 1

(29.66 ± 8.77)

(1) (P 0.01)

DSM 5 (2)

(3) (1)

(2)

(3) (52.9 ± 5.7)

52 (9.8 ± 2.9)

(P 0.05)

1		(x̄ ± s)	
项目	患者组 (n=82)	对照组 (n=52)	t值
言语流畅性功能			
范畴流畅(个)	11.07 ± 5.48	16.30 ± 3.19	-6.446*
动物命名(个)	5.69 ± 3.96	11.16 ± 3.44	-7.514*
注意功能			
数字划消(s)	313.60 ± 298.83	170.89 ± 58.09	3.744*
TMT-A(s)	107.65 ± 59.98	69.93 ± 33.84	4.203*
单词测验(个)	49.55 ± 19.78	70.05 ± 16.61	-5.651*
颜色测验(个)	30.42 ± 13.26	43.68 ± 13.93	-5.022*
执行功能			
色词干扰测验(个)	17.52 ± 9.11	23.86 ± 9.35	-3.526*
TMT-B(s)	236.46 ± 93.04	151.50 ± 66.81	4.576*
空间功能			
木块图(分)	17.97 ± 8.35	29.37 ± 6.10	-8.355*
WMS-III总分(分)	12.21 ± 3.79	16.56 ± 7.08	-4.269*

*P 0.01

1.2

1.2.1 10

4 (1)

(2)

A(TMT- A) Stroop

(3) B(TMT- B) Stroop

(4) WMS- III

TMT- A TMT- B 2.2 P300

2 P300

1.2.2 P300 (P 0.01)

Nicolet Viking Quste 2.3 P300

P300 3 4

10/20 Cz P300 TMT- A

A1 FPz (P 0.05)

Oddball (P 0.01) P300

80% 85 dB 1 000 Hz

20% 95 dB 2 000 Hz PANSS (P 0.05)

2		P300	($\bar{x} \pm s$)
组别	例数	潜伏期(ms)	波幅(μV)
患者组	82	409.38 \pm 27.34	4.69 \pm 1.02
对照组	52	309.69 \pm 22.44	7.32 \pm 1.78
t值		22.990*	-9.699*

*P < 0.01

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3		(r)	
项目	潜伏期	波幅	
言语流畅性功能			
范畴流畅	-0.104	0.124	
动物命名	-0.231	0.137	
注意功能			
数字划消	0.481**	-0.338**	
TMT-A	0.245*	0.046	
单词测验	-0.164	0.178	
颜色测验	-0.081	0.034	
执行功能			
色词干扰测验	0.044	-0.023	
TMT-B	0.317	-0.126	
空间功能			
木块图	-0.004	0.072	
WMS-III总分	-0.219	0.183	

*P < 0.05 **P < 0.01

6

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10

4		(r)	
项目	潜伏期	波幅	
年龄	0.201	-0.054	
受教育年限	-0.099	0.102	
病程	0.198	0.007	
氯丙嗪当量	-0.057	0.099	
PANSS总分	0.072	0.052	
阳性症状总分	-0.159	0.176	
阴性症状总分	0.118	0.004	
一般精神病理总分	0.155	-0.016	

P < 0.05

Mathis ¹²

11

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5 6

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TMT- A

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TMT- A

Sui ⁷

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(179)

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N1 P2

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(PANSS)

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