·学术交流·

P300

P300
82 52 Nicolet Viking Quste
P300
(TMT-A TMT-B) Stroop ( ) WMS-
(P 0.01)
P300 (t=22.990 P 0.01) (t=-9.699
P 0.01) P300 TMT-A (r=0.481 P 0.01
r=0.245 P 0.05) P300 (r=-0.338 P 0.01)
P300
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 (TMT-A TMT-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 TMT-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.

Key words Schizophrenia Event-related potentials P300 Cognitive function

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48.0%~53.3% P300
[1-2] 45.9%~70.5% P300
P300

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[4] P300

1

1.1 2015 8 ~2016 7

(1)
(DSM-5)
(2) ≥ 5
(3)
(4) (1)
(2) (3)
(4)
(5)
82 (52.0±7.5)
(8.9±3.0) (28.35±6.85)
(472.41±219.96)mg/d
(PANSS) 91~120 7 61~90 24 ≤
60 51 (58.51±18.94)
(10.83±4.75) (18.28±8.73)
(29.66±8.77)

(1)
DSM-5 (2)
(3) (1)
(2)
(3)
52 (52.9±5.7)
(9.8±2.9)
(P 0.05)

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

1.2.2 P300
Nicolet Viking Quste
P300
10/20 Cz
A1 FPz
Oddball
80% 85 dB 1 000 Hz
20% 95 dB 2 000 Hz
5 KΩ
0.5~100 Hz 600 ms

80%
P300 (P300
) (P300
)

1.3 SPSS 16.0
± ($\bar{x} \pm s$)
t
Pearson
P 0.05

2

2.1 1

(P 0.01)

1 ($\bar{x} \pm s$)

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

2.2 P300
2 P300
(P 0.01)

2.3 P300
3 4
P300 TMT-A
(P 0.05)
(P 0.01) P300
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 ± 27.34	4.69 ± 1.02
对照组	52	309.69 ± 22.44	7.32 ± 1.78
t值		22.990*	–9.699*

*P 0.01

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

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

3

4

[5-6]

Sui [7]

P300

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[8-9]

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6 P300 [10]

[11]

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Mathis [12]

P300 [13]

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TMT-A

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TMT-A

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(179)

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13

P300 N1 P2

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PANSS)

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