

공황장애환자의 정신생리적 반응

Psychophysiological Response in Patients with Panic Disorder

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ABSTRACT

Objectives: An increased level of psychophysiological arousal and diminished physiologic flexibility would be observed in patients with panic disorder compared with a normal control group. We investigated the differences of psychophysiological response between patients with panic disorder and normal control to examine this hypothesis.

Methods: Ten Korean patients with panic disorder who met the diagnostic criteria of DSM-IV were compared with 10 normal healthy subjects. In psychological assessment, levels of anxiety and depression were evaluated by State-Trait Anxiety Inventory, Beck's Depression Inventory and Hamilton Rating Scale For Anxiety and Depression. Heart rate, respiration rate, electrodermal response, and electromyographic activity were measured by biofeedback system (J & J I-330 model) to determine psychophysiological responses on autonomic nervous system. Stressful tasks included mental arithmetic, video game, hyperventilation, and talking about a stressful event. Psychophysiological responses were measured according to the following procedures; baseline (3 min) - mental arithmetic (3 min) - rest (3 min) - video game (3 min) - rest (3 min) - hyperventilation (3 min) - rest (3 min) - talking about a stressful event (3 min).

Results: The baseline level of anxiety and depression, electrodermal response ($p=.017$), electromyographic activity ($p=.047$) and heart rate ($p=.049$) of patients with panic disorder were significantly higher than those of the normal subject group. In electrodermal response, patient group had significantly higher startle response than the control group during hyperventilation ($p=.001$). Startle and recovery responses of heart rate in the patient group were significantly lower than responses in the control group during mental arithmetic ($p=.007$, $p=.002$). In electrodermal response of the patient group, startle response was significantly higher than recovery response during mental arithmetic ($p=.000$) and video game task ($p=.021$). Recovery response was significantly higher than startle response in respiratory response during hyperventilation.

Conclusion: The results showed that patients with panic disorder had higher autonomic arousal than the control group, but the physiologic flexibility was variable. We suggest that it is helpful for treatment of panic disorder to decrease the level of autonomic arousal and to recover the physiologic flexibility in certain stressful event. *Sleep Medicine and Psychophysiology* 2001; 8(1): 52-58

Key words: Panic disorder · Psychophysiological response.

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1998

(2-11).

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가 . ,

3) 우울수준 평가

Hamilton Rating Scale for Depression(18), Beck Depression Inventory(19) (20)

4) 생리적 반응 측정

Biofeedback system J & J I - 330 program (J & J Engineering, Inc.) (beat/minute), (μMhos), (μV) (breath/minute) (21,22). sensor

연구대상 및 방법

1. 연구대상

DSM - (15) 10 (9 , 1)

5) 스트레스 작업

Grove Garber(22)가 4

가 (, , , 3

1) . 2

47.5 ± 14.3 , 47.3 ± 10.1 , 3
10.9 ± 3.7 , 11.2 ± 2.3 1

가 . (23)

가 (tur-

ning knob)

가

2. 연구방법

1) 실험실 조건

25

biofeedback

60 lux

22~

25

가

가

가

bio-

feedback

6) 검사 절차

가

가

2) 불안수준 평가

Hamilton Rating Scale for Anxiety(16), Spielberger's State - Trait Anxiety Inventory (17)

가 , 가 - 가
biofeedback system J & J

sensor
10, 3, 가
(1),
(p=0.002).

3. 자료처리

Mann - Whitney U - test

Wilcoxon signed rank test

SPSS version 7.1.2
p<0.05

결 과

1. 공황장애 환자의 임상적 특성

3 ± 2.4 / 43.3 ± 82.04
10, 10 6 (60%)

8

alprazolam
imipramine SSRI (paroxetine) 가 1
가 3가 1

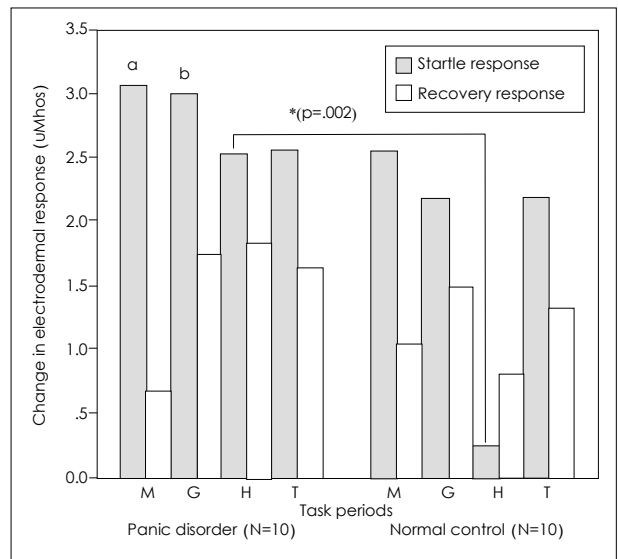
2. 불안, 우울 수준

2 (p=.0001), (p=.0001),
(p=.001), (p=.002), (p=.0001)

3. 생리적 측정치, 놀람 및 회복반응

2 (p=0.017)

(p=0.015 ; p=0.023). (2)
(4) 가



5.

Fig. 1. Startle and recovery responses in electrodermal response. M : Mental arithmetic ; G : Video game ; H : Hyperventilation ; T : Talk-about.

* : Comparison between panic disorder and normal control groups by Mann-Whitney U-test ; a, b : Comparisons between startle and recovery response within panic disorder group by Wilcoxon signed rank test, a : p=.005 ; b : p=.037

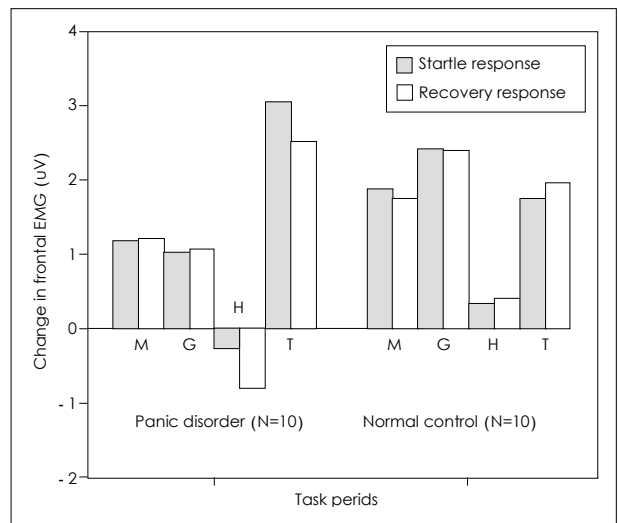


Fig. 2. Startle and recovery responses in frontal electromyography. Abbreviations are the same as Fig. 1.

(24 - 28)가

(p=0.037) (1), (p=0.005) (2)

(4), (p=0.047)

(3) (p=0.028)

(2) 가

고 찰

Hoehn - Saric (13)

가

가

(23).

가 1

가

가

가

가

가

(13)

가

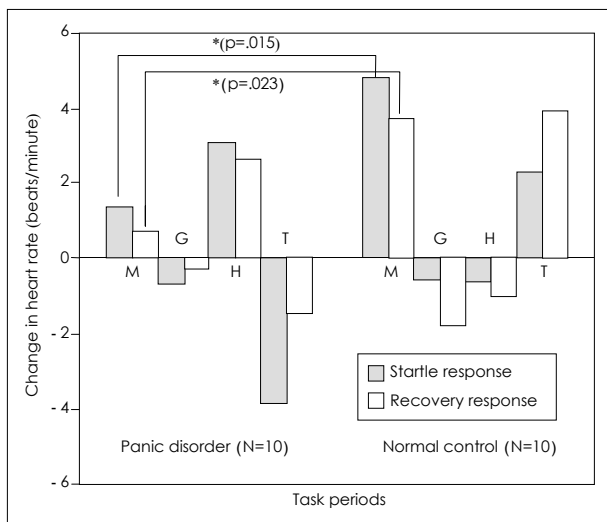


Fig. 3. Startle and recovery responses in heart rate. Abbreviations are the same as Fig. 1.

* : Comparison between panic disorder and normal control groups by Mann-Whitney U-test.

a : Comparison between startle and recovery response within panic disorder group by Wilcoxon signed rank test, p=.028

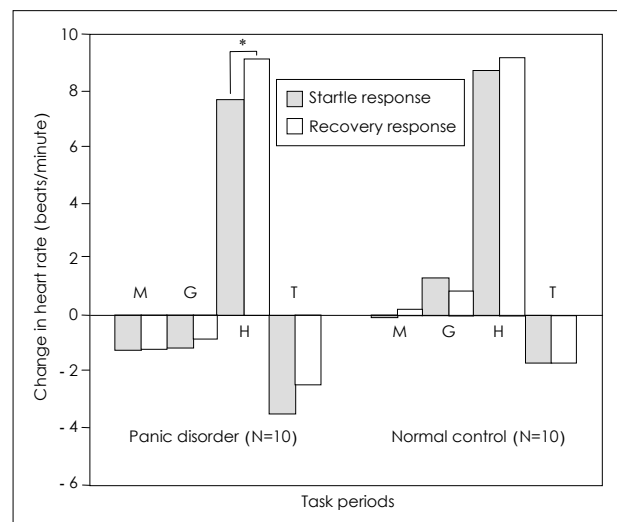


Fig. 4. Startle and recovery responses in respiration. Abbreviations are the same as Fig. 1.

* : Comparison between startle and recovery responses within panic disorder group by Wilcoxon signed rank test, p=.047

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요 약

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(12). **목 적 :**

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방 법 : DSM-10 (9 , 1 ; 47.5±14.3), (9 , 1 ; 47.3±10.1)

가

, Beck , Hamilton

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J & J I - 330 4

가

15 3 (3) - -

가 가
가

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가

가

가

가

결 과 :

(p=.017),

(p=.047), (p=.049) 가

가

가

(p=.001).

p=.007, p=.002).

(p=.0001) (p=.021)

가 (30).

(p=.035)

가

면 론 :

중심 단어 :

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