The Relation of HRV, PSQI and IQ with Symptoms of Insomnia Patients

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Abstract
Objective: This study was to investigate the relation of what insomnia patients’ symptoms with Heart Rate Variability(HRV), Pittsburgh Sleep Quality Index(PSQI) and Insomnia Questionaire(IQ).

Methods: For this study, we carried out HRV, PSQI and IQ of 43 patients with insomnia who have come to Dongeui oriental hospital of Dongeui university from September 2007 to May 2008. We studied the relationship HRV with PSQI and IQ. For every symptom, this study classified the patients as none-symptom, symptom groups and analyzed each group’s HRV, PSQI and IQ.

Result:
1. The rate of xerostomia in female group is significantly higher than male group.
2. P1(hypnagogic time), P3(awakening time), LF has negative correlation with age. The score of P1(hypnagogic time), P3(awakening time), P4(time of recoverable sleep) in the group whose age is more than 50 are higher than the group whose age is lesser than 50.
3. The frequency of using hypnotics(P6) in the group whose duration of onset are over 1 year was significantly higher than the score in the group whose duration of onset were below 1 year.
4. The accompanied symptoms in the group who started sleep disorder after stressor are higher than the number in the group whose duration of onset were poor-defined.
5. The drinking group have lower rate of anorexia, higher score of P1(hypnagogic time) and TP than non-drinking group.
6. The score of P-total (general quality of sleep) have negative correlation with NN50, HF, TP and positive correlation with LF/HF.
7. The score of P1 (hypnagogic time) have negative correlation with LF.
8. The score of P5a (frequency of delayed hypnagog) have positive correlation with LF/HF.
9. The score of P5c (frequency of cough or snoring) have negative correlation with RMSSD.
10. The score of I1a (degree of onset insomnia), I1b (degree of maintenance insomnia) have negative correlation with NN50, pNN50, HF.
11. The score of I1c (degree of termination insomnia) have negative correlation with RMSSD, NN50, pNN50, HF, TP and positive correlation with MHR, LF/HF.
12. The score of P5i (frequency of night pain), LF/HF in the group with headache are higher than the group without headache.
13. The score of P5a (frequency of delayed hypnagog), P5c (frequency of awakening for urine of stool) in the group with xerostomia are higher than the group without xerostomia.
14. The score of P9 (degree of unrecoverable sleep) and I5a (degree of onset insomnia) in the group with chest discomfort are lower than the group without chest discomfort.
15. The score of P7 (frequency of drowsiness for daytime) in the group with palpitation are lower than the group without palpitation.
16. The score of P5c (frequency of awakening for urine of stool), P5i (frequency of burning sensation), P5h (frequency of nightmare), I1c (degree of termination insomnia) in the group with burning sensation of upper trunk are higher than the group without burning sensation.
17. The score of NN50, pNN50, LF, TP in the group with anorexia are lower than the group without anorexia.
18. The score of P-total (general quality of sleep), P2 (duration for sleep start) in the group with constipation are higher than the group without constipation.
19. The score of P4 (recoverable sleep time) in the group with depression are higher than the group without depression.
20. In the the group with anxiety, the score of P1 (time of hypnagogue), P5a (frequency of onset insomnia) are lower and the score of I1b (degree of maintenance insomnia), I4 (objective degree of impairment by insomnia) are higher than the group without anxiety.
21. The score of NN50, pNN50, HF, TP in the group with inertia are lower than the group without inertia.
22. The accompanied symptoms haver positive correlation with P5i (frequency of burning sensation), P5h (frequency of nightmare), P5i (frequency of night pain) and LF/HF.

Conclusion: This study provides insights into the complicated relations of the pattern of sleep disorder with many symptoms such as headache, chest discomfort, depression and any others. And this study showed that autonomic nervous system have important function in the regulation of sleep.

Key Words: Insomnia, HRV, Body sympsoms, PSQI

I. 緒 論

수면은 인간의 가장 기본적인 욕구 중 하나로써, 낮 동안 소모되고 소실된 부분을 회복시키기 위해 기능, 발생학적 기능, 인성학적 기능, 인지적 기능, 감정조절 기능 등을 가지고 있으며, 그 중 중추신경계를 중심으로 한 환상성 회복이 가장 중요한 기능이다1). 수면에 문제가 생기거나 백화당한 경우, 심