번호 12-4

제 목	국문	심자율능과 혈압과의 관계: 지역기반의 단면 연구					
	영문	Association of Cardiac Autonomic Function and Blood Pressure: A Population-based Cross-sectional Study					
저 자 및 소 속	국문	신민호, 이수진, 권순석, 박경수, 손석준, 최진수 전남의대 예방의학교실					
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1. 연구 목적

Analysis of beat-to-beat heart rate variability(HRV) has become established as one of the invasive methods to assess cardiac autonomic activity quantitatively. As a result of the interaction between sympathetic and parasympathetic activity, beat-to-beat heart rate shows periodicities over time. These periodicities can be identified through spectral analysis, whereby the observed heart rate is expressed mathematically by a function of time as the sum of a series of sine and cosine functions of varying amplitudes and frequencies. Cycles with a frequency of 0.025-0.15Hz (called low frequency power, LF) are under the influence of both the sympathetic and parasympathetic nervous system. Cycles with a frequency of 0.16-0.35Hz (called high frequency power, HF) are under the influence of the parasympathetic system only.

Several clinically and population based studies have found that hypertensive patients have a higher LF and a lower HF. However, none of these results can be considered as conclusive. This study is designed to assess the association of autonomic function and prevalent hypertension in a population based sample.

2. 연구 방법

1) Study population

The population for this study was drawn as a simple random sampling from the 500 individuals who participated in the baseline examination of the epidemiologic study for the residents' health effects of atomic power station in Youngkwang. The participant was selected as a probability sample of men and women between the ages of 30 and 69 years at three county in Youngkwang.

2) Data collection

At the examination, study participants had six ECG electrodes place in chest. Ambulatory, 15-min beat-to-beat heart rate data were collected after participants remained comfortably. The only middle 5-min data were analyzed.

3) HRV analysis

The 5-min raw heart rate data were analyzed by MARS® 5000 arrhythmia review system. We calculated the HF, LF, LF/HF, SDNN(standard deviation of all intervals), and pNN50(percentage of intervals more than 50 ms different than previous interval) as the index of HRV.

4) Blood pressure

Sitting blood pressure was measured two times on each participant with sphygmomanometer, after a 5-min rest, by trained technicians following a standardized protocol. When two blood pressure difference more than 10mmHg, blood pressure was measured three times.