초록번호 11-5

제 목	국 문	청년들에 있어서 심박수와 미래의 혈압: CARDIA 연구
	영 문	Heart Rate and Subsequent Blood Pressure in Young Adults: The CARDIA Study
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1. 연구 목적

To examine the hypothesis that baseline heart rate predicts subsequent blood pressure independently of baseline blood pressure

2. 연구 방법

In the multicenter, longitudinal Coronary Artery Risk Development in Young Adults study of black and white men and women initially aged 18-30 years, we studied 4762 participants who were not current antihypertensive drug users and had no history of heart problems at the baseline examination (1985-86). In each race-sex subgroups, we estimated the effect of baseline heart rate on blood pressures 2, 5, 7 and 10 years later using repeated measures regression analysis, adjusting for baseline blood pressure, age, education, body fatness, physical fitness, fasting insulin, parental hypertension, cigarette smoking, alcohol consumption, and oral contraceptive use, and change of fatness from baseline.

3. 연구결과

The association between baseline heart rate and subsequent systolic blood pressure was explained by multivariate adjustment. However, heart rate was an independent predictor of subsequent diastolic blood pressure, regardless of initial blood pressure and other confounders, in white men, white women, and black men (0.7 mmHg increase per 10 beats/min). We incorporated the part of the association which was already present at baseline by not adjusting for baseline diastolic blood pressure: the mean increase in subsequent diastolic blood pressure was 1.3 mmHg per 10 beats/minute in white men, white women and black men.

4. 고찰

CARDIA data suggest that in some patients who later develop hypertension, signs of enhanced sympathetic drive exhibited by higher heart rate are present before the blood pressure elevation. Diastolic pressure relates most closely to vascular resistance and is less affected by cardiac function. The heart rate elevation reflects an increased sympathetic tone leading to smooth muscle cell proliferation resulting over the long term in reduced compliance of the peripheral vasculature and consequently elevated diastolic blood pressure.

In conclusion, heart rate is an independent predictor of diastolic blood pressure over the next 10 years in white men and women and black men, regardless of initial blood pressure and other potential confounders.