We consider CPM to be a future “routine” technique, allowing us to use math analyses and see “what we can’t normally see”.

Key Words: Coherent Radiation, Diagnose, Polarimetry Microscopy

P-426
AMBULATORY BLOOD PRESSURE IS SUPERIOR TO OFFICE BLOOD PRESSURE IN PREDICTING EARLY VASCULAR DISEASE IN NON-HYPERTENSIVE HEALTHY YOUNG PROFESSIONALS
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Introduction: Office blood pressure (BP) has been the standard method for diagnosing and managing hypertension. However, studies found that 24-hr ambulatory BP may be better than office BP in predicting cardiovascular diseases (CVD). The intima media thickness (IMT) of the common carotid is a reliable and valid marker of CVD. We compare the association between IMT and the office and ambulatory systolic BP measures.

Methods: As a part of our ongoing prospective study of job stress on the development of CVD, a group of 88 non-hypertensive (office BP<140/90 mmHg), clinically healthy young professionals were analyzed. A 24-hr ambulatory BP monitor (Spacelabs 90217-1A) was used to measure 24-hr systolic BP, which was further separated into average systolic BP while working (working-SBP), awake but not working (awake-nonworking -SBP), and sleeping (sleeping-SBP). Office systolic BP (Office-SBP) was calculated based on established methods of repeating readings. Common carotid artery IMT was measured by ultrasonography (HP Sono 5500) and analyzed with IodP software.

Results: Using multivariable linear regression, we found that increasing working-SBP, sleeping-SBP and awake-nonworking-SBP, but not Office-SBP, were significantly associated with increasing IMT.

Summary: Our results suggest that ambulatory systolic BP monitor during working, sleeping and awake-nonworking hours, as compared to the office BP, are more closely associated with early structural vascular changes in our non-hypertensive clinically healthy young professionals. Therefore, ambulatory BP may be a better predictor of CVD than office BP measure.

Key Words: Ambulatory Blood Pressure, Hypertension, Vascular Disease

P-427
PRE-HYPERTENSION IS ASSOCIATED WITH METABOLIC RISK FACTORS AND EARLY CARDIOVASCULAR DISEASE IN CLINICALLY HEALTHY YOUNG PROFESSIONALS
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Introduction: JNC-7 introduced a new pre-disease category of pre-hypertension (pre-HTN). Though several demographic and metabolic factors contribute to the development of cardiovascular disease (CVD), their roles in pre-HTN status remain unknown. We evaluated the clinical validity of Pre-HTN, and analyzed its association with demographic, metabolic, and hormonal factors as well as the vascular structural changes by measuring the intima media thickness (IMT) of the common carotid artery.

Methods: As a part of our ongoing prospective study of job stress on CVD, a sample of 103 non-hypertensive (BP<140/90 mmHg), clinically healthy young professionals were classified into pre-HTN and normotensive groups. Demographic factors (age, gender, ethnicity), shift work, waist circumference and smoking, metabolic - endocrine factors (HDL, LDL, nonHDL, fasting glucose CRP, serum cortisol, adrenalin, norephinephrine, DHEA and DHEA-s) were analyzed. The IMT of common carotid artery was measured by ultrasonography (HP Sono 5500) and analyzed with IodP software. Multivariable logistic regression was used to analyze the association of pre-HTN and these demographic, metabolic, and hormonal variables as well as the vascular structural changes.

Results: We found that the increasing likelihood of PreHTN status was significantly and more closely associated with increasing levels of waist circumference, non-HDL cholesterol and IMT than other factors or variables.

Summary: Our results support the recently proposed pre-disease category of Pre-HTN. Pre-HTN is associated with metabolic risk factors and early vascular disease process in these clinically healthy non-hypertensive young professionals.

Key Words: Cardiovascular Disease, Hypertension