

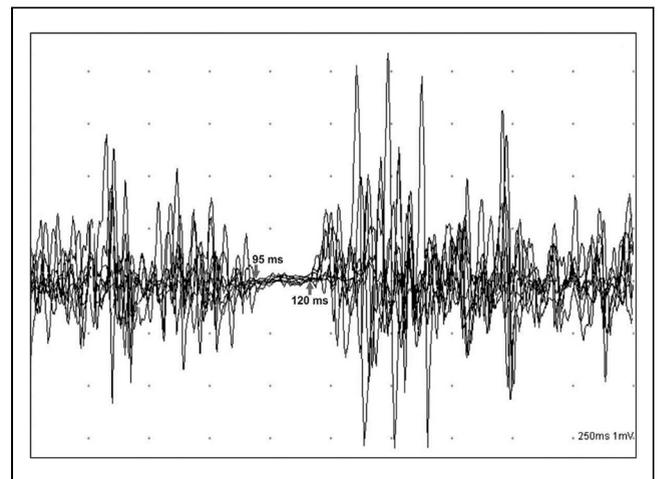
**BACKGROUND** Atrial fibrillation is (AF) the most common sustained cardiac rhythm disorder. Small nerve fibres carry autonomic modalities, somatic pain and temperature sensations. The aim of our study was to assess the role of small A-delta nerve fibres in the peripheral nerves of patients with AF.

**METHODS** The function of small nerve fibers was assessed by cutaneous silent period (CSP) elicited by electrical square pulse stimulation using stimulating ring electrodes on the index finger and recording electrodes over thenar muscles. The CSP onset, end latencies and suppression of muscle activity - duration over APB were measured. Patients either with polyneuropathy or drugs that contribute to peripheral nerve involvement were excluded.

**RESULTS** In the study 30 patients with paroxysmal AF and 30 age-matched healthy subjects were comprised. The mean CSP onset latency in patients with AF was significantly longer compared with the control group ( $86.67 \pm 8.19$  vs.  $68.05 \pm 7.81$ , CI 83.2-90.1 vs. 65.9-70.0), meanwhile CSP duration was markedly shorter in AF patients ( $45.10 \pm 10.96$  vs.  $60.95 \pm 10.14$ , CI 40.7-49.6 vs. 58.3-63.4). Nerve conduction study of the large motor and sensory fibers did not reveal any difference between patients and healthy subjects.

Fig. 1 Cutaneous silent period in patient with AF

**CONCLUSION** In our study, the main attention was focused on the extrinsic cardiac nervous system using a CSP measurement. The delay of CSP onset latency reflects the impairment of afferent volley of A-delta afferents, efferent motor axons and synaptic delay, while shortened CSP duration is related to the amount of activated axons and indicates the axonal lesion. Abnormality of CSP in AF patients supports the occurrence of small nerve fiber neuropathy. Our study of small nerve fibres may imply a new aspect in the etiology of AF.



**OTHER**

**CRT-500.06**

**Related Variables in the Screening for Prevalence of Prehypertension in Young Adults Students at Technical School**



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**BACKGROUND** Worldwide, several studies have been conducted about the association between hypertension in childhood and adolescence and socio-demographic factors: lifestyle, family history and anthropometry.

**OBJECTIVE** This study aims to identify the prevalence of prehypertension and related variables in young adults.

**METHODS** Cohort study. The variables were collected by questionnaire or measures. Univariate analysis was performed using the chi square and it was performed five multiple logistic regression models for the variables with  $p < 0.10$  in the univariate analysis. The students were from three courses, either college as vocational school, were evaluated: gender, age, course, skin color, income, education, lifestyle, history of hypertension, weight, waist circumference and prehypertension defined as VII Joint National Committee: systolic 120-139 and diastolic 80-89 mmHg.

**RESULTS** A total of 394 students were evaluated. There were 309 (78,43%) in the normal group (NG) and 85 (21,57%) in prehypertension group (PH) of students. It was found in NG and PG, respectively: females 254 (82.2%) and 44 (51.8%) ( $p < 0.001$ ); age (three age ranges: until 19 years, 20-25 and 25-30) more frequent in older ( $p = 0.001$ ); ethnicity (self declared) black 16 (5.2%) and 11 (12.9%) ( $p < 0.001$ ); 62 mother's hypertension (20.1%) and 28 (32.9%) ( $p = 0.024$ ); overweight 34 (11.0%) and 17 (20.0%) ( $p = 0.045$ ); obese 3 (1.0%) and 10 (11.8%) ( $p < 0.001$ ); increased abdominal circumference 37 (12.0%) and 19 (22.3%) ( $p = 0.024$ ). At least one of five multiple logistic regression models were associated with absence or presence of prehypertension (OR, 95% CI): females (4.026, 2.373 to 6.828), age (1.081, 1.004 to 1.164), hypertensive mother (1.838, 1.027 to 3.289) and greater waist circumference (1.067, 1.035 to 1.100).

**CONCLUSION** About a fifth of the students were considered to be in prehypertension group. Factors associated with prehypertension in this study: male, older, mother with hypertension and increased waist circumference.

**CRT-500.07**

**The Role of Small Nerve Fibers in the Development of Atrial Fibrillation**



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**CRT-500.09**

**Reliability of The Cardiac Output Measurements During Catheterization: Comparison of Various Commonly Used Formulae Calculating Assumed O<sub>2</sub> Consumption**



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**BACKGROUND** Cardiac output (CO) measurement guides management of various medical conditions, including adult congenital heart diseases (ACHD) and pulmonary hypertension. It is mandatory to calculate patients' oxygen consumption (VO<sub>2</sub>), to measure CO. Ideally VO<sub>2</sub> consumption should be measured by using a metabolic apparatus;