



## Artery Research

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### **P104: INFLUENCE OF AGE AND GENDER ON 24-HOUR VARIABILITY OF CENTRAL BLOOD PRESSURE: FINDINGS FROM THE INTERNATIONAL 24-HOUR AMBULATORY AORTIC BLOOD PRESSURE CONSORTIUM (I24ABC)**

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**Background:** Difference between sex, age, ethnias etc. have been described for every parameter of vascular structure and function. It is of outmost importance to know their reference values for using non invasive vascular evaluations (NIVE) in a certain population to detect subclinical atherosclerosis.

**Objective:** Analyze the values of the main vascular structure and functional parameters used for NIVE in a significative reference sample of a country.

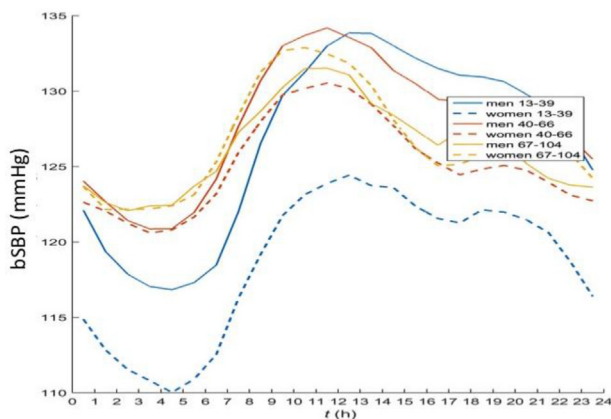
**Methods:** A retrospective cohort study from a database of 7355 p. first ever Non Invasive Vascular Evaluations (NIVE) (IMT, plaques, PWV and Endothelial Function (EF)). We analyzed 667 p. 40–45 y.o. (9.1%) referent healthy patients without CV risk factors, heredofamilial history, CV events and CV drugs. The whole group, men (392) and female (275) data divided in deciles (from 70 y.o.) are described.

**Results:** The higher proportion of the sample is concentrated between 30 and 60 y.o. in both sexes. IMT ranged from 0,49 to 0,8 mm, % of CF Plaques from 1,2% to 78,6%, Athero.Burden 16 to 68mm<sup>2</sup>, Endothelial Function from 9,8 to 8,8% and PWV from 6,8 + 1.9 to 10.3 + 2 m/sec. Comparison between sex showed higher values in males and with other reference antional and international series, quite similar values except in some groups.

**Conclusion:** This is a significative sample of "healthy patients" coming from a mixed urban and rural population of our country, offering a set of reference values for the main NIVE parameters, ready for clinical application.

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#### INFLUENCE OF AGE AND GENDER ON 24-HOUR VARIABILITY OF CENTRAL BLOOD PRESSURE: FINDINGS FROM THE INTERNATIONAL 24-HOUR AMBULATORY AORTIC BLOOD PRESSURE CONSORTIUM (I24ABC)

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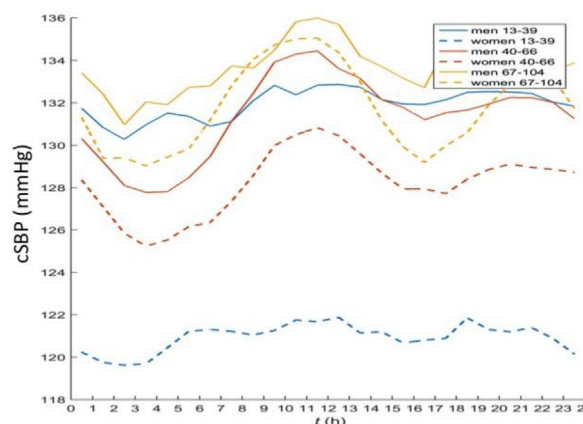
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**Background:** Conventional brachial cuff BP is known to vary according to age and gender, but the influence of these factors on 24-hour ambulatory central BP is unknown. We sought to determine this in a large healthy population from 11 centers in Europe and Asia.

**Methods:** 24-hour ambulatory BP using a validated oscillometric device (Mobilograph, I.E.M, Stolberg, Germany) was performed in 1645 individuals free from anti-hypertensive drugs. Participants were categorized as young (Y: 13–39 years; M/F:219/112), middle-aged (MA: 40–66 years; M/F:545/553), and older (O: 67–104 years; M/F:86/130). Nighttime/daytime difference (N/D) was defined as nighttime (01.00–06.00) minus daytime (09.00–21.00) values / daytime values.

**Results:** Averaged 24-hour brachial BP was 125/79 (Y), 128/83 (MA), and 127/77 (O) mmHg. N/D for brachial SBP was -10.3% (Y), -6.4% (MA), and -4.7% (O), but was significantly less pronounced for central SBP: -1% (Y), -3.1% (MA), and -1.9% (O). Men, compared to women, had higher brachial and central SBPs, mainly in younger participants. Brachial pulse pressure (PP) displayed limited and age-dependent circadian variations, whereas central PP was substantially higher at nighttime: N/D was 24% (Y), 9% (MA), and 5.9% (O). Brachial and central PPs were higher in men in the younger group, but higher in women in middle-aged and older groups.

**Conclusion:** Both age and gender each have a significant influence on 24-hour variability of central BP, but is different than variability in brachial BP. These data have potential implications for refining hypertension diagnosis and management.



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#### PULSE PRESSURE AMPLIFICATION AND PHYSICAL ACTIVITY IN YOUNG BLACK AND WHITE ADULTS: THE AFRICAN-PREDICT STUDY

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