Results: Highly significant difference was found in double amplitude (2DA) of blood pressure between night and day shift (p<0.001). Eclipsis (odd timing of circadian pattern of blood pressure not of heart rate) was also found in few subjects. In night shift, hyperbolic index (HBP) of mean systolic blood pressure was found to be increased at 00-03 am (midnight) while during day shift, peak was found at 06-09 am. Peak melatonin was to be found in early morning as compared to mid night in both the shifts.

Conclusions: The present study concluded that the desynchronization was appeared during night shift and entrainment of circadian rhythm in the day shift.

**PP2150** BLOOD PRESSURE VARIABILITY AND RESISTANT HYPERTENSION IN A VERY ELDERLY POPULATION

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Objective: Resistant hypertension is defined as the absence of blood pressure (BP) control in subjects treated with at least 3 anti-hypertensive drugs including a diuretic. Blood pressure variability (BPV) proved to be directly related to organ target damage independently from blood pressure control. In a very elderly population undergoing ambulatory blood pressure monitoring (ABPM) we evaluated BPV differences in relation to blood pressure control and diagnosis of resistant hypertension.

Design and method: 701 elderly subjects (aged over 75 years) in anti-hypertensive pharmacological treatment underwent ABPM at our Institution between January 2001 and November 2013. All the recordings were performed using the same oscilometric device (TM 2430), in order to avoid confounding factors; all ABPMs fulfilled both the following criteria: > 23 hours recording and at least 2 valid measurements/hour (>70 % of total measures). All the usual ABPM parameters were recorded: mean 24h systolic (MSP) and diastolic (MDP) pressures, pulse pressure (PP), blood pressure variability (BPV), dipping status and heart rate, clinical BP measurements, age, sex, body mass index, smoking habits, diabetes. Moreover dipper and non-dipper status (difference day-night >10 mmHg) was also calculated for all the pressures.

Results: 43 % of our elderly subjects received a therapy that was conceivable with a RH diagnosis, among those 35 % showed uncontrolled BP values. Among the remaining 56 % of subjects treated with less than 3 anti-hypertensive drugs 51 % showed uncontrolled BP values.

BPV whatever expressed proved to be significantly higher in elderly uncontrolled subjects with RH, whether controlled or uncontrolled.

Conclusions: In our elderly patients the number of anti-hypertensive drugs proved to be better related to blood pressure control. Mising of target blood pressure control seems related to increased BPV variability both in RH and not RH subjects. Even if the study population cannot be regarded as a global hypertensive picture, we confirm the extreme difficulty in B'P control in very elderly subjects.

**PP2151** TYPICAL BLOOD PRESSURE RESPONSE TO DOBUTAMINE STRESS ECHOCARDIOGRAPHY IN PATIENTS WITHOUT KNOWN CARDIOVASCULAR DISEASE

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Objective: Although dobutamine stress echocardiography (DSE) is widely performed, blood pressure (BP) response has not been thoroughly studied. We sought to define typical BP response to dobutamine in patients (pts) not known to have cardiovascular disease.

Design and method: We evaluated 23208 pts who underwent DSE at Mayo Clinic, Rochester MN, from November 2003 to December 2012. We excluded pts with a history of hypertension, diabetes, or coronary artery disease, and pts taking beta-blockers, calcium-blockers, or inhibitors of the renin angiotensin aldosterone system. Pts who had abnormal DSE were also excluded (wall motion abnormalities).

Results: 3065 patients were eligible for the study. During DSE, systolic BP (SBP) increased slightly from rest to peak stress (delta +2.9 ±24 mmHg, p <0.001) and diastolic BP (DBP) decreased (delta -7.4 ±14 mmHg). BP changes were age-related (Figure). The deltaSBP of pts who received atropine (n = 1284, 43%) was greater than that of pts who did not (+7.4 ±26 vs. -0.5 ±22 mmHg, P <0.0001) and deltaDBP was less (-4.4 vs. -0.7 ±12 mmHg, p =0.0001). This effect of atropine was present in men (deltaSBP and deltaDBP +8.4 ±26 and -4.4 ±15 with atropine vs. +1.6 ±34 and +9.0 ±21 without atropine) and women (+6.4 ±25 and -4.3 ±14 vs. -1.9 ±21 and -10.0 ±12), and more pronounced in younger pts (Figure).

Conclusions: The typical BP response to DSE is a slight increase in SBP and a decrease in DBP. The deltaSBP is greatest in younger pts. Overall BP responses are higher with atropine, regardless of gender, and most evident in younger pts.

**PP2152** BLOOD PRESSURE VARIABILITY IN PATIENTS WITH UNCONTROLLED OFFICE BLOOD PRESSURE: FIRST GET THE (THE) MEAN?

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Objective: Blood pressure variability (BPV) has been associated with increased cardiovascular risk. This study aimed to determine the BPV of primary care patients with uncontrolled office blood pressure (BP) using home blood pressure (HBP) readings.

Design and method: A cross-sectional study was conducted in primary care patients with uncontrolled office BP, defined as systolic BP of > 140mmHg and/or diastolic BP of >90 mmHg. Participants were loaned HBP monitors to take home for a month. Patients were given oral and written instructions to perform HBP measurements daily, two up waking and two in the evening. We defined BPV as the standard deviation (SD) of HBP measurements. Patients' demographic data were recorded and are reported as mean (SD) for continuous variables and frequency (percentage) for categorical variables. Spearman's correlation coefficient was used to determine correlation. All analyses were performed using SPSS software (version 21).

Results: Twenty patients were recruited, mean age 59 (SD 11.2), age range 40-79 years. The majority was male (n=11, 55%). The mean office systolic and diastolic BP upon enrollment were 151 mmHg and 85 mmHg, but mean systolic and diastolic HBP were lower at 129.4 mm Hg and 74.9 mm Hg. The calculated SD to reflect the BPV was 10.1 mm Hg for systolic HBP and 7.0 mm Hg for diastolic HBP. There was a weak but significant correlation between mean systolic HBP and SD (r=0.68, P=0.001). However, this was not observed for diastolic HBP (r=0.41, P=0.07). Four from twelve patients (33%) with controlled mean systolic HBP (systolic HBP < 135 mmHg) had high BPV (SD>9.43). However,five from six patients (83%) with a high mean systolic HBP (systolic HBP > 135 mmHg) had high BPV.

Conclusions: HBP monitoring allows measurement of blood pressure variability. In this study, 83% participants with uncontrolled mean systolic HBP had high BPV whereas only 33% of those with controlled mean systolic HBP had high variability. This possibly indicates that measurement of BPV may be more useful in those with controlled mean systolic HBP and the initial focus of treatment should be to get the mean HBP to target.