higher AIX (31.1% vs. 27.4% g/ml, P<0.05). On the contrary, hypertensives with GFR=60 ml/min/1.73m² had similar 10-year cardiovascular risk compared to hypertensives with GFR=60 ml/min/1.73m² (17.3% vs. 13.0%, p=0.323).

Conclusions: Renal dysfunction is associated with LWM and arterial stiffness. Hypertensives with moderate to severe renal dysfunction despite having similar 10-year cardiovascular risk with hypertensives with normal renal function or mild renal dysfunction, demonstrate higher aortic stiffness and LV mass, implying a possible underestimation of risk by Framingham. Thus, measurement of aortic stiffness and LV mass could improve risk stratification in hypertensives with renal dysfunction.

P1580 | BEDSIDE
Early but not late stage of postmenopause improves predictive value of risk scores (FRS and SCORE) in women with premature coronary disease
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Purpose: Primary prevention risk estimation scores such as Framingham Risk Score (FRS) and SCORE may underestimate the risk of coronary artery disease (CAD) in young women. Relatively low prevalence, often delayed diagnosis due to lack of symptoms, and potentially devastating social consequences of acute myocardial infarction in women. Therefore, we evaluated whether addition of the early versus the late stage of menopause period to the traditional risk scales impact their predictive value.

Methods: A single center case-control study including 323 subjects (mean age 49.42 years) with coronary disease onset (either CAD confirmed by coronary angiography or troponin-positive acute coronary syndrome) before the age of 55, and 347 age matched healthy controls (mean age 49.69 years) from the National Health Survey WOBASZ study. FRS and SCORE were calculated for each of the patients and controls. Area under ROC curve (AUC) was compared between the models containing the early or the late postmenopausal period defined respectively as ≤ 3 and >3 years from its onset.

Results: Both, early and late stage of postmenopause were more frequent in the group of patients with CAD than in the controls: 128 (39.6%) vs 69 (17.0%); P=0.001, and 97 (54.2%) vs 82 (45.8%); P=0.001, respectively, but the difference in late menopausal stage was smaller. Median of FRS for patients versus controls was 5 vs 3 points respectively, and median of SCORE were 0.96% vs 0.57% respectively. The AUC for FRS was 0.678 and increased significantly after adding early stage of postmenopause to AUC=0.736, p=0.0015. In contrast, after adding late stage of postmenopause the AUC remained constant (AUC=0.678). AUC estimated for SCORE was 0.659 and also increased significantly after adding early stage of postmenopause to AUC=0.736, p=0.0015. After addition of late stage of postmenopause, AUC did not change (AUC=0.653; p=0.41).

Conclusion: The early period following menopause, up to three years since its onset, is an important risk factor for premature coronary disease in women. Therefore, the addition of early stage to traditional risk scales may impact their predictive value.

In female group (age=58±10), subjects with hyperuricaemia had impaired FMD (3.5±3.2% vs. 6.2±4.8%, P<0.01), PWV (1.01±0.34ms-1 vs. 0.83±0.21ms-1, P=0.03), and higher IIMD (0.84±0.12mm vs. 0.78±0.13mm, P=0.08) compared to non-hyperuricaemic group.

Conversely in male group (age=58±10), only impairment of FMD (4.6±2.8% vs. 5.9±3.6%, P=0.08) was seen in subjects with hyperuricaemia compared to those without. AUC estimated for ECG-LVH in females (0.98±0.34ms-1 vs. 0.95±0.31ms-1, P=0.05) were not significantly different as compared to subjects with normouricaemia.

Nonetheless, multivariate analysis demonstrated that hyperuricaemia was not independently associated with FMD, IMT and PWV in the whole population, independent female group or male group (p>0.05).

Conclusion: This study demonstrates that hyperuricaemia in females better correlates with FMD, PWV and IMT as compared with males. Interestingly, recent studies have shown that SUA is more strongly correlated with CVD in women than in men. In both female and male subjects, the independent relationships were nonetheless limited after multivariable adjustments. These results suggested that hyperuricaemia may have a gender-specific, but with limited independent role, in relation to subclinical atherosclerosis.

P1581 | BENCH
Air pollution induces endothelial dysfunction via oxidative stress in myocardial injured rats by isoproterenol
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Objectives: Air pollution is an environmental health risk factor that is associated with increased cardiovascular mortality. Herein, we hypothesize that air-polluted mediated oxidative stress induces endothelial dysfunction.

Methods: Sprague Dawley Rats were injected with isoproterenol (ISO, 75mg/kg) subcutaneously, once daily, for 2 days. Two weeks after ISO administration, rats were exposed to air pollutant in the specially designed car which measured the particulate air pollutants and exposed to animals in traffic areas in Seoul for 19 days, 4 hours a day. Aortic rings were embedded in Matrigel and photographed on day 5 with an inverted microscope. Data was constituted by counting the number of branch points in each image. To understand the role of air pollution to oxidative stress, aorta homogenates were used for in vitro ROS/RNS assay, which detects hydrogen peroxide, peroxylradical and peroxynitrite anion. Malondialdehyde (MDA) and Nitric Oxide (NO) levels were also assessed in aorta homogenates.

Results: ISO and concomitants with air pollution exposure impaired availability of nitric oxide and decreased aorta's vasodilation. In ISO-treated and air-polluted rats respectively, ROS, NO, and MDA levels were significantly reduced in the ISO groups, as compared with the ISO+air polluted groups. In addition, MDA concentration was decreased in ISO and further pollutant exposure (40.88±3.42 in no-treat, 65.15±17.11 in ISO and 74.12±16.80 mM MDA/mg in ISO+AP). However total NO levels were not changed.

Conclusions: Air pollution impairs aorta endothelial function via ROS generation, with NO-independent manner in ISO-treated rats.

P1583 | BEDSIDE
Reduced plasma levels of nitric oxide metabolites in normotensive middle-aged men with electrocardiographically determined left ventricular hypertrophy
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Purpose: Recent studies have shown that normotensive subjects with electrocardiographically determined Left Ventricular Hypertrophy (ECG-LVH) are at risk of multiple cardiovascular diseases. However, the underlying mechanisms remain to be elucidated. In this study, we tested our hypothesis that normotensive individuals with ECG-LVH have reduced plasma levels of metabolites of Nitric Oxide (NO), a critical regulator of cardiovascular function.

Methods: Among 579 Japanese male workers (40-65 years of age) without hypertension [antihypertensive treatment or blood pressure (BP) >140/90 mmHg], we finally studied 73 subjects with ECG-LVH and 292 subjects without ECG-LVH who were matched for age, and systolic and diastolic BP. ECG-LVH was determined by the Sokolow-Lyon voltage >38 mm and the Cornell voltage-duration product >2440 mm.m/s. Plasma levels of NOx (NO metabolites, nitrite and nitrate) were measured by the Griess method. The subjects were categorized by quartiles of plasma NOx levels, and a logistic regression analysis was conducted relating the prevalence of ECG-LVH to NOx quartiles after adjusting age, waist circumference, and systolic and diastolic BP, and smoking status.

Results: Of the clinical characteristics, the subjects with ECG-LVH had lower body mass index, waist circumference, serum triglyceride and fasting insulin levels and higher serum high-density lipoprotein cholesterol levels as compared with the subjects without ECG-LVH (each P<0.05). The median levels of plasma NOx (NOx = NO metabolites, nitrite and nitrate) were significantly reduced in the subjects with ECG-LVH as compared with the subjects without ECG-LVH (22.5 [IQR: 15:1-41:0] mmol/l vs. 36.8 [IQR: 25.0-56.2] mmol/l, P<0.05). In the subgroup analysis, there also was a significant negative correlation between the prevalence rate of ECG-LVH and the NOx quartiles.