ACC.13
62nd Annual Scientific Session & Expo
TCT@ACC-i2

E2061
JACC March 12, 2013
Volume 61, Issue 10

Vascular Medicine

CHANGE IN ANKLE-BRACHIAL INDEX OVER TIME IN THE PARTICIPANTS OF HEALTH CHECKUP

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Markers of Cardiovascular Risk and Impact
Abstract Category: 35. Vascular Medicine: Non Coronary Arterial Disease
Presentation Number: 1210-164

Authors: *Yuichiro Toma, Akio Ishida, Megumi Miyagi, Yusuke Ohya, University of the Ryukyus, Okinawa, Japan*

Background: The ankle brachial index (ABI) is a useful marker for generalized atherosclerosis. Not only the subjects with an ABI ≤0.9 but also those with a borderline ABI (0.91-0.99) are as known as an increased risk of future cardiovascular events. Whereas we have recently reported that the ABI was lowest at <40 years, and increased with age until 60-69 years in both sexes in the subjects with screened cohort. In participants <40 years, 19% of women and 8% of men had a borderline ABI. We aimed to evaluate the change in ABI over time (ΔABI) in this study.

Method: We examined ABI of 23,673 participants (aged 21-89 years) of a health evaluation program. Participants with valid ABI over 5-year follow-up were examined in this study (n = 1,120, 55% women). Mean ΔABI was small (-0.01, range -0.24 to 0.27); therefore we compared highest quartile of ΔABI (Q1, 0.03≤ in men, 0.04≤ in women) and lowest quartile of ΔABI (Q4, <-0.06 in men, <-0.05 in women).

Results: Baseline ABI was significantly higher in men (1.13 ± 0.07, range 0.88-1.32) than in women (1.10 ± 0.07, range 0.80-1.22). ΔABI was negatively correlated with baseline ABI both in men (r2=0.23) and in women (r2=0.34). ΔABI among borderline (0.9< ABI <1.0) and normal lower ABI (1.0≤ ABI <1.1) at baseline significantly increased over 5-year follow-up. Conversely, ΔABI among normal (1.1≤ ABI <1.2) and higher ABI (1.2≤) at baseline significantly decreased in both sexes. In men, Q1 group had lower systolic blood pressure (124 ± 13 vs. 130 ± 15 mmHg, P=0.018) and diastolic blood pressure (77 ± 10 vs. 81 ± 10 mmHg, P = 0.023) than Q4 group. In women, Q1 group was younger than Q4 group (51.9 ± 8.5 vs. 54.8 ± 8.3 years, P = 0.011) and had lower total cholesterol (202 ± 33 vs. 214 ± 34 mg/dl, P = 0.007), LDL-C (121 ± 30 vs. 132 ± 33 mg/dl, P = 0.008), and non-HDL-C levels (139 ± 33 vs. 150 ± 34 mg/dl, P = 0.015).

Conclusions: ABI increased in participants with low cardiovascular risk factors, such as lower blood pressure and cholesterol levels, and decreased in participants with higher blood pressure and cholesterol levels. Lower borderline ABI in younger subjects does not always indicate lower limbs arterial stenosis.