**COMPARISON BETWEEN STRICT CONTROL OF RISK FACTORS AND STANDARD CONTROL IN PREVENTION OF ARTERIOSCLEROSIS**

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**Objective:**Control of risk factor for arteriosclerosis is very important to prevent cardiovascular events or stroke, however, effect of strict control of those risks on progression of arteriosclerosis is still unknown. We compared preventive effect of strict control of risk factors with that of standard control.

**Method:** The progression of carotid atherosclerosis was evaluated by ultrasonography and carotid plaque score ( PS: summation of maximum thickness of each plaque ) and mean intima-media thickness(m-IMT) were calculated. Cardio-ankle vascular index (CAVI) derived from pulse wave velocity and stiffness B was also for evaluation of arterial stiffness. Hypertension, diabetes mellitus, dyslipidemia and smoking were considered to be risk factors. In strict control group, systolic blood pressure ( SBP ) was less than 130 mmHg and LDL-cholesterol ( C ) was less than 80 mg/dl. In standard group, SBP was less than 140 mmHg, and LDL-C was less than 140mg/dl. HbA1c was less than 6.5% in strict control group, and less than 7 % in standard control group. Aortic calcification was evaluated by CT.

**Results:** In 108 patients with strict control group( mean age 71.66 years old ), mean SBP was 120.36mmHg ± 6.54 ( mean ± SD ) and mean LDL-C was 77.3 ± 7.18 mg/dl. In 124 patients with standard control group( mean age 72.46 years old ), mean SBP was 137.81 mmHg and mean LDL-C was 136.23±7.30 mg/dl. Mean HbA1c was 6.0 ± 0.39% in patients with strict control group, and 6.8 ± 0.84 in standard control group. Carotid PS increased from 4.92 ± 2.14 to 6.48 ± 2.55 in standard group (P<0.005), and from 4.19 ± 2.11 to 4.95 ± 2.23 in strict group (P<0.005). Mean IMT increased from 0.92 ± 0.11 to 0.99 ± 0.10 mm in standard group (P<0.001) and from 0.96 ± 0.11 to 0.93 ± 0.11 mm in strict group (P<0.005). Mean CAVI decrease from 9.33 ± 0.92 to 9.12 ± 0.91 in strict group (P<0.05) and 9.40 ± 0.89 to 9.10 ± 0.89 in strict group (P<0.05). Aortic calcification and the incidence of cardiovascular events was not different between groups.

**Conclusion:** Even with strict control of risk factors for arteriosclerosis, progression of carotid sclerosis cannot be prevented, however, progression may be very slow. CAVI cannot predict progression of carotid arteriosclerosis.