122
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IS THERE AN ASSOCIATION BETWEEN VASCULAR RISK FACTORS AND OVER ACTIVE BLADDER ? : A RANDOM CROSS-SECTIONAL EPIDEMIOLOGICAL STUDY

Hypothesis / aims of study
Bladder wall ischemia caused by the arteriosclerosis with age is paid attention to the factor of over active bladder (OAB). Diabetes mellitus, hypertension, hyperlipidemia and nicotine use is said to be a Vascular risk factors. To investigate the association between vascular risk factors and OAB, we performed a random cross-sectional epidemiological study.

Study design, materials and methods
This study was conducted using a population-based random cross-sectional epidemiological study in the Shiga Epidemiological Study of Subclinical Atherosclerosis (SESSA) between 2010 and 2013. 518 male, aged 61-83 years, participated in this study. We investigate the association between Over Active Bladder Symptom Score (OABSS) and Vascular Risk Factors: age, body mass index (BMI), percent body fat, waist circumference, lifetime cigarette consumption, drinking history, sleep time, systolic blood pressure, diastolic blood pressure, hypertension, diabetes mellitus (DM), hyperlipidemia, total cholesterol (TC), high-density lipoprotein (HDL), triglycerides (TG),, ankle/brachial pressure index (ABI), pulse wave velocity (PWV), abdominal aortic calcification score.

Results
The mean age was 71.8+/-6.0 years old and the mean OABSS was 2.9+/-2.2. The proportions of OAB were 19.9% and OAB wet were 9.1%.
OAB patient, compared with non OAB patient, was significantly higher in lifetime cigarette consumption (p=0.0006), abdominal aortic calcification score (p=0.007), age (p=0.01), percent body fat (p=0.01), BMI (p=0.02).
In univariate regression Aanalysis, age (p<0.0001), triglycerides (p=0.012), abdominal aortic calcification score (p=0.023), diastolic blood pressure (p=0.028),and hyperlipidemia (p=0.036) were significantly correlated with OABSS.
In multivariate logistic regression analysis, age (p<0.0001), HL (p=0.03), lifetime cigarette consumption (p=0.03), TG (p=0.03) were significantly correlated with OABSS.

Interpretation of results
According to our data, age, hyperlipidemia, lifetime cigarette consumption, and triglycerides, are independent predictors of OABSS.

Concluding message
Age and classical vascular risk factors: hyperlipidemia, lifetime cigarette consumption, and triglycerides, are independent predictors of OABSS, but abdominal aortic calcification score, considered to be directly correlated with Bladder wall ischemia, is not proved because of collinearity with age.

Table 1 - univariate regression Aanalysis of vascular risk factors on OAB

	standardised regression coefficient	P value
age	0.21	< 0.0001
triglycerides	-0.11	0.012
abdominal aortic calcification score	0.10	0.023
diastolic blood pressure	-0.096	0.028
hyperlipidemia	0.092	0.036
lifetime cigarette consumption	0.082	0.062
pulse wave velocity	0.082	0.062

Table 2 - multivariate logistic regression analysis of vascular risk factors on OAB

	coefficient	Standard error	Standardizing Coefficient（β）	T value	P value
	-2.181	1.177		-1.853	0.065
age	0.071	0.016	0.194	4.459	0.000*
hyperlipidemia	0.468	0.217	0.093	2.157	0.031*
lifetime cigarette consumption	0.008	0.004	0.093	2.141	0.033*
triglycerides	-0.003	0.001	-0.097	-2.196	0.029*

	coefficient	Standard error	Standardizing Coefficient（β）	T value	P value