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POPULATION-BASED SURVEY OF OVERACTIVE BLADDER IN JAPAN: A CROSS-SECTIONAL ANALYSIS OF THE NAGAHAMA STUDY
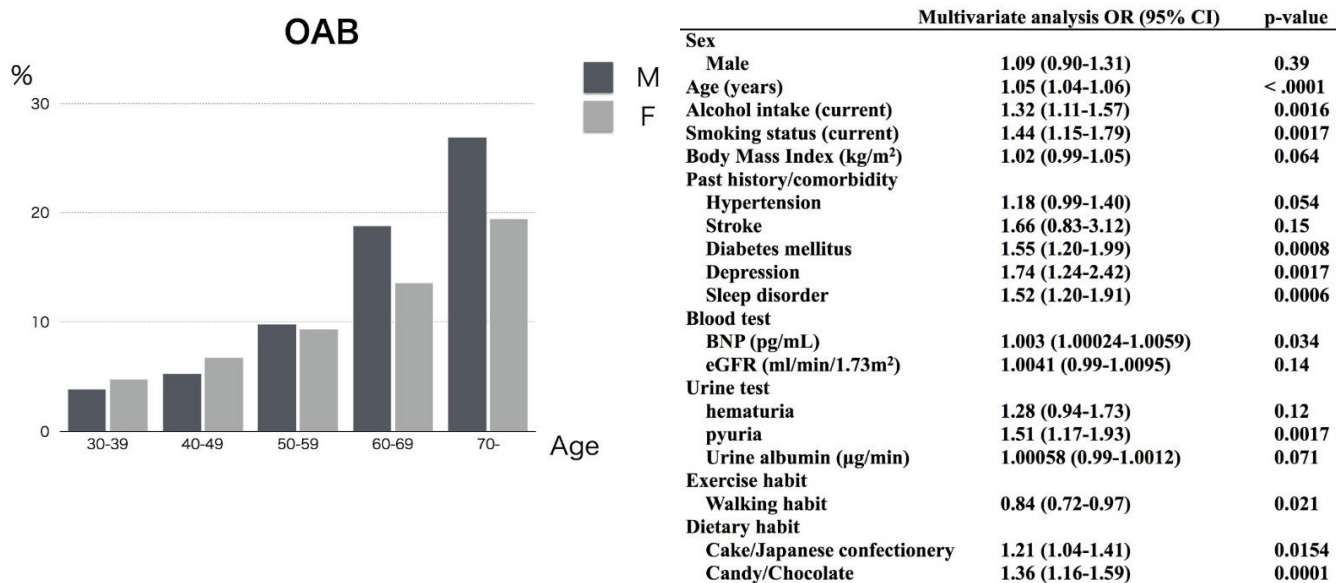
Hypothesis / aims of study
Overactive bladder (OAB) symptoms are common in both men and women, and have substantial impact on quality of life and economic burden. In Asia, estimated number of individuals affected by OAB is the greatest among the world's regions, and the number is still increasing. However, relatively few population-based surveys for OAB have been published to date in Japan.
Here, we aimed to evaluate the prevalence and risk factors of OAB in a general Japanese population and to clarify the characteristics of Asian population.

Study design, materials and methods
A cross-sectional study was conducted in the Nagahama cohort project that was composed of a questionnaire survey, anthropometric measures, physiological measures, biochemical measures from blood samples and genomic information of the participants aged from 30 to 74 years in Nagahama City located in the central region of the main island of Japan. The Overactive Bladder Symptom Score (OABSS) questionnaire was included in the cohort and OAB was defined as a total OABSS score ≥ 3 with an urgency score ≥ 2. We created models using step-wise multivariable logistic regression to analyze risk factors associated with OAB.

Results
A total of 9,789 subjects (men: 3,214; women: 6,575) was qualified as the statistical analysis from the participants in the Nagahama cohort. The overall prevalence of OAB was 11.2% (men: 13.9%; women: 9.95%) and increased with aging. In the multivariate logistic regression model, OAB was significantly associated with age (OR 1.05, $p < .0001$), alcohol intake (OR 1.32, $p = 0.0016$), smoking status (OR 1.44, $p = 0.0017$), diabetes mellitus (OR 1.55, $p = 0.0008$), depression (OR 1.74, $p = 0.0017$), sleep disorder (OR 1.52, $p = 0.0006$), BNP (OR 1.003, $p = 0.034$), pyuria (OR 1.51, $p = 0.0017$), walking habit (OR 0.84, $p = 0.021$), consumption of cake/Japanese confectionery (OR 1.21, $p = 0.015$) and candy/chocolate (OR 1.36, $p = 0.0001$) (See table below).

	Multivariate analysis OR (95% CI)	p-value
Sex		
Male	1.09 (0.90-1.31)	0.39
Age (years)	1.05 (1.04-1.06)	< .0001
Alcohol intake (current)	1.32 (1.11-1.57)	0.0016
Smoking status (current)	1.44 (1.15-1.79)	0.0017
Body Mass Index (kg/m^2)	1.02 (0.99-1.05)	0.064
Past history/comorbidity		
Hypertension	1.18 (0.99-1.40)	0.054
Stroke	1.66 (0.83-3.12)	0.15
Diabetes mellitus	1.55 (1.20-1.99)	0.0008
Depression	1.74 (1.24-2.42)	0.0017
Sleep disorder	1.52 (1.20-1.91)	0.0006
Blood test		
BNP (pg/mL)	1.003 (1.00024-1.0059)	0.034
eGFR (ml/min/1.73m^2)	1.0041 (0.99-1.0095)	0.14
Urine test		
hematuria	1.28 (0.94-1.73)	0.12
pyuria	1.51 (1.17-1.93)	0.0017
Urine albumin (μg/min)	1.00058 (0.99-1.0012)	0.071
Exercise habit		
Walking habit	0.84 (0.72-0.97)	0.021
Dietary habit		
Cake/Japanese confectionery	1.21 (1.04-1.41)	0.0154
Candy/Chocolate	1.36 (1.16-1.59)	0.0001

Interpretation of results
The prevalence of OAB in men was more than that in women in this study in accordance with previous reports from Asian regions, while it is opposite to reports from European ones. Some gender difference may exist in the cause of OAB between Asia and Europe. This study also showed associations between OAB and BNP, pyuria, exercise and dietary habits, which might mean lifestyle affects OAB.

Concluding message
The prevalence of OAB in men tended to be more than that in women in Japan. Blood/urine tests were associated with OAB and behavioral modification of lifestyle might prevent OAB in Asian population.

Disclosures
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