THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
APSN
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

Abstract Submission No.: A-0200

Characteristics of obstructive sleep apnea and metabolic parameters in individuals with albuminuria in Korea: A nationwide population-based study

Yeojin Yu[1], Kyungdo Han[5], Young Sun Shin[1], Semin Cho[6], Eunjeong Kang, Sehoon Park[1], Yaerim Kim, Dong Kim[1], Soojin Lee[2]
[1]Department of Internal Medicine-Nephrology, Seoul National University Hospital, Korea, Republic of
[2]Department of Department of Statistics and Actuarial Science, Soongsil University, Korea, Republic of
[3]Department of Internal Medicine-Nephrology, Chung-Ang University Gwang-Myeong Hospital, Korea, Republic of
[4]Department of Department of Transplantation center, Seoul National University Hospital, Korea, Republic of
[5]Department of Internal Medicine-Nephrology, Keimyung University School of Medicine, Korea, Republic of
[6]Department of Internal Medicine-Nephrology, Uijeongbu Eulji University Medical Center, Korea, Republic of

Objectives : Obstructive sleep apnea (OSA) is associated with an increased risk of numerous metabolic complications, including cardiovascular diseases, and its prevalence is increasing worldwide. The present study examined the clinical characteristics and comorbidities of OSA among Korean adults with albuminuria and aimed to demonstrate the association with OSA.
Methods : We screened subjects aged ≥40 who underwent the Korean National Health and Nutrition Examination survey (2019-2021) and included those who completed the STOP-BANG questionnaire and underwent urine albumin quantification. The STOP-BANG questionnaire, a screening tool for OSA, was used to determine the severity of the risk of OSA. The association of albuminuria and the clinical parameters, including OSA, was examined with multiple logistic regression analysis.
Results : Among a total of 22,559 subjects, 10,923 were acceptable for the study. Subjects with albuminuria showed a higher STOP-BANG score compared to subjects without albuminuria. Albuminuria was significantly associated with a high STOP-BANG score (odds ratio [OR], 2.01; 95% confidence interval [CI], 1.66 to 2.43), and the result was consistent after multivariate adjusted analysis. Moreover, the association was more prominent with subjects with an increased amount of albuminuria. Inversely, a high STOP-BANG score also showed an association with albuminuria (OR 2.51; 95% CI 1.89 to 3.31).
Conclusions : In the present study, albuminuria showed a significant association with a high risk of OSA, as inferred from the high STOP-BANG score. Among the subjects with albuminuria, screening, and monitoring for OSA may be beneficial in minimizing future metabolic complications.

Figure 1.jpg

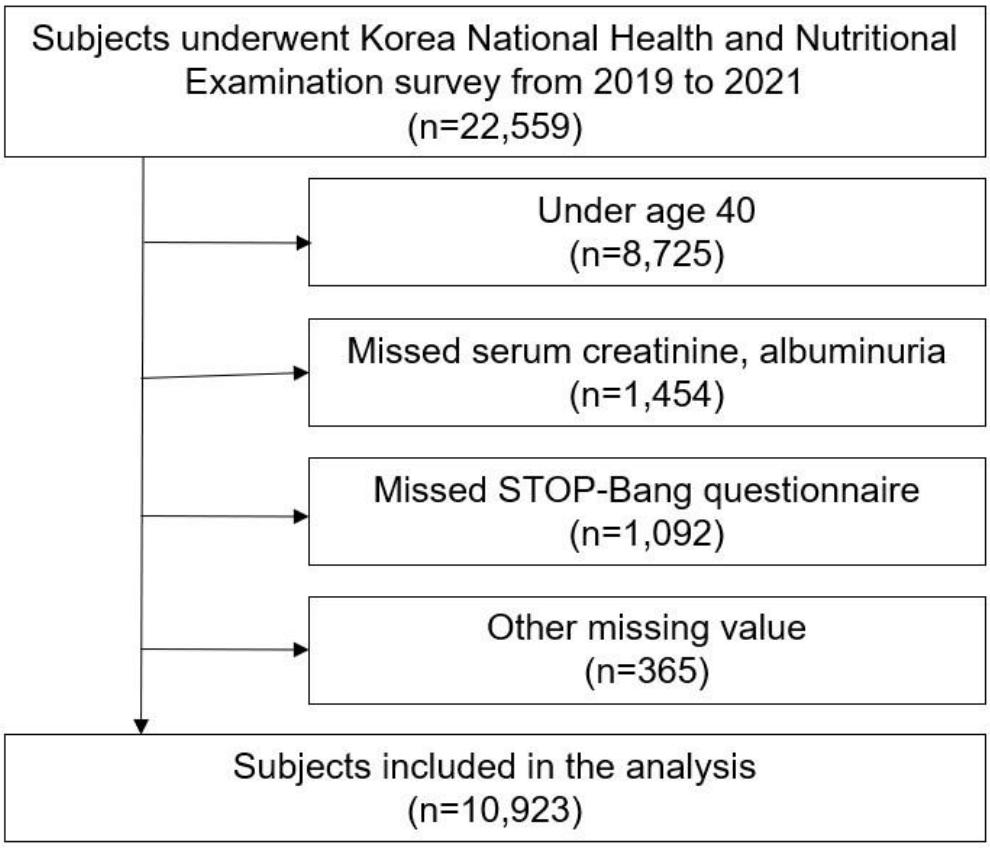

Figure 1.jpg

Table 3 Association of high OSA risk group with STOP-BANG questionnaires and albuminuria

	Model 1		Model 2		Model 3	
	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Albuminuria (UACR<30)	Reference	<0.001	Reference	<0.001	Reference	0.001
UACR≥30	2.01 (1.66-2.43)		1.89 (1.51-2.35)		1.53 (1.20-1.95)	
Albuminuria (UACR<30)	Reference	<0.001	Reference	<0.001	Reference	0.003
UACR 30-300	1.88 (1.52-2.34)		1.83 (1.44-2.34)		1.51 (1.16-1.95)	
UACR >300	2.82 (1.85-4.31)		2.16 (1.30-3.61)		1.65 (0.95-2.87)	
Snoring	Reference	<0.001	Reference	<0.001	Reference	<0.001
	16.50 (14.15-19.24)		20.11 (16.87-23.97)		21.29 (17.69-25.61)	
Tired	Reference	<0.001	Reference	<0.001	Reference	<0.001
	4.08 (3.54-4.69)		6.51 (5.53-7.66)		6.79 (5.73-8.05)	
Observed	Reference	<0.001	Reference	<0.001	Reference	<0.001
	23.23 (19.61-27.52)		19.31 (15.82-23.58)		20.07 (16.36-24.62)	
HTN (Pressure)	Reference	<0.001	Reference	<0.001	Reference	<0.001
	5.87 (5.03-6.86)		6.54 (5.51-7.77)		5.96 (4.99-7.11)	
BMI	Reference	<0.001	Reference	<0.001	Reference	<0.001
	7.20 (5.86-8.85)		17.73 (12.91-24.35)		16.28 (11.84-22.38)	
Age	Reference	<0.001	Reference	<0.001	Reference	<0.001
	2.21 (1.84-2.66)		3.54 (2.74-4.57)		3.53 (2.71-4.59)	
Neck	Reference	<0.001	Reference	<0.001	Reference	<0.001
	31.79 (23.89-42.30)		19.58 (13.46-28.48)		17.34 (11.96-25.12)	
Gender (Male)	Reference	0.001	Reference	<0.001	Reference	<0.001
	16.57 (12.91-21.25)		17.10 (13.33-21.93)		14.49 (10.88-19.31)	

Model 1: Non-adjusted
Model 2: Adjusted with age, sex
Model 3: Adjusted with age, sex, residence, occupation, household income, education, smoking, alcohol, physical activity, DM, hypercholesterolemia