

SUPPLEMENT

Table S1: ICD-9/CPT and surgical codes used to define obstructive sleep apnea (OSA), polysomnography (PSG) and continuous positive airway pressure (CPAP) treatment

<u>Diagnosis/procedure s</u>	<u>ICD-9/CPT and surgical code</u>
OSA	3272x, 78057
PSG	8917 (surgical) and 95800 95801, 95805, 95806, 95807, 95808, 95810
CPAP	9390 (surgical) and 95811

Abbreviations: CPAP: continuous positive airway pressure treatment; OSA: obstructive sleep apnea; PSG: polysomnography

Table S2: ICD-9 codes used to define prevalent comorbid conditions and incident conditions

Comorbid condition	ICD-9 code
Hypertension	401-405
Diabetes mellitus	250.x
Myocardial infarction	410-410.9, 412
Angina	411, 413
CAD	414.0, 414.8, 414.9
PCI	36.03, 36.04, 36.06, 36.07, 36.09
CABG	36.10-36.17, 36.19
CHF	428-428.9
Peripheral arterial disease	440.0-440.9, 443, 443.x, 38.0, 38.1, 39.50, 39.22, 39.24, 39.25, 39.26, 39.28
Cerebrovascular disease	430-438
Chronic lung disease	490-496, 500-505, 506.4
Dementia	290-290.9
Rheumatologic disease	710.0, 710.1, 710.4, 714.0-714.2, 714.81, 725
Peptic ulcer disease	531-534.9, 531.4-531.7, 532.4-532.7, 533.4-533.7, 534.4-534.7
Liver disease	571.x, 572.x, 456.0-456.21
Hemiplegia or paraplegia	344.1, 342-342.9
Malignancy	140-172.9, 174-195.8, 200-208.9, 196-199.1
HIV/AIDS	042, V08, 795.71
Depression	296.x

Abbreviations: CAD: coronary artery disease; PCI: percutaneous coronary intervention;
CABG: coronary artery bypass grafting; CHF: congestive heart failure

Table S3: ICD9 codes used to define incident clinical events

<u>Incident event</u>	<u>ICD9 code</u>
Acute myocardial infarction	410.x
PCI	36.03, 36.04, 36.06, 36.07, 36.09
CABG	36.10-36.17, 36.19
Ischemic stroke	433.x, 434.x, 436.x

Abbreviations: PCI: percutaneous coronary intervention; CABG: coronary artery bypass grafting

Table S4: Procedure (CPT) codes used to define coronary interventions

Coronary intervention	CPT code
PCI	92980 92981 92982 92984 92985 92986 92987 92988
	92989 92990 92991 92992 92993 92994 92995 92996
CABG	33510 33511 33512 33513 33514 33515 33516 33517
	33518 33519 33521 33522 33523 33533 33534 33535
	33536

Abbreviations: PCI: percutaneous coronary intervention; CABG: coronary artery bypass grafting

Table S5: The association of diagnosis of incident OSA and different outcomes in propensity-matched cohort of 42,340 patients (21,170-21,740 patients with and without diagnosis of incident OSA) estimated with Fine-Gray competing-risks analysis, where the death was considered as a competing event

		CHD		Ischemic Stroke		CKD	
		SHR	95% CI	SHR	95% CI	SHR	95% CI
Diagnosis of incident OSA (ref.: OSA negative)	of	3.28	3.02-3.56	3.19	2.89-3.53	1.89	1.81-1.98

Abbreviations:

CHD: Coronary Heart Disease; CKD: Chronic Kidney Disease; OSA: Obstructive Sleep

Apnea; SHR, subhazard ratio; CI, confidence interval.

Legend of Figures

Figure S1: Cumulative incidence curves of different outcomes (panel A: CHD free survival; panel B: ischemic stroke event free survival and panel C: CKD free survival) in patients with and without diagnosis of incident OSA estimated with Fine-Gray competing-risks analysis, where the death was considered as a competing event

Figure S2: Association between diagnosis of incident OSA and mortality using adjusted time-dependent Cox regression in different subgroups

Abbreviations: AA: African-American; BMI: Body mass index; CHD: coronary heart disease; CVD: Cardio-vascular disease; CPAP: Continuous Positive Airway Pressure; DM: Diabetes mellitus; eGFR: Estimated glomerular filtration rate; OSA: Obstructive Sleep Apnea

Figure S3: Association between diagnosis of incident OSA and incident CHD disease using adjusted Cox proportional regression in different subgroups

Abbreviations: AA: African-American; BMI: Body mass index; CHD: coronary heart disease; CVD: Cardio-vascular disease; CPAP: Continuous Positive Airway Pressure; DM: Diabetes mellitus; eGFR: Estimated glomerular filtration rate; OSA: Obstructive Sleep Apnea

Figure S4: Association between diagnosis of incident OSA and incident ischemic stroke disease using adjusted Cox proportional regression in different subgroups

Abbreviations: AA: African-American; BMI: Body mass index; CVD: Cardio-vascular disease; CPAP: Continuous Positive Airway Pressure; DM: Diabetes mellitus; eGFR: Estimated glomerular filtration rate; OSA: Obstructive Sleep Apnea

Figure S5: Association between diagnosis of incident OSA and incidence of eGFR <60 ml/min/1.73m² using adjusted time-dependent Cox regression in different subgroups

Abbreviations: AA: African-American; BMI: Body mass index; CKD: Chronic kidney disease; CVD: Cardio-vascular disease; CPAP: Continuous Positive Airway Pressure; DM: Diabetes mellitus; eGFR: Estimated glomerular filtration rate; OSA: Obstructive Sleep Apnea

Figure S6: Association between diagnosis of incident OSA and risk of rapid deterioration of kidney function using adjusted logistic regression in different subgroups

Abbreviations: AA: African-American; BMI: Body mass index; CVD: Cardio-vascular disease; CPAP: Continuous Positive Airway Pressure; DM: Diabetes mellitus; eGFR: Estimated glomerular filtration rate; OSA: Obstructive Sleep Apnea

Figure S1:

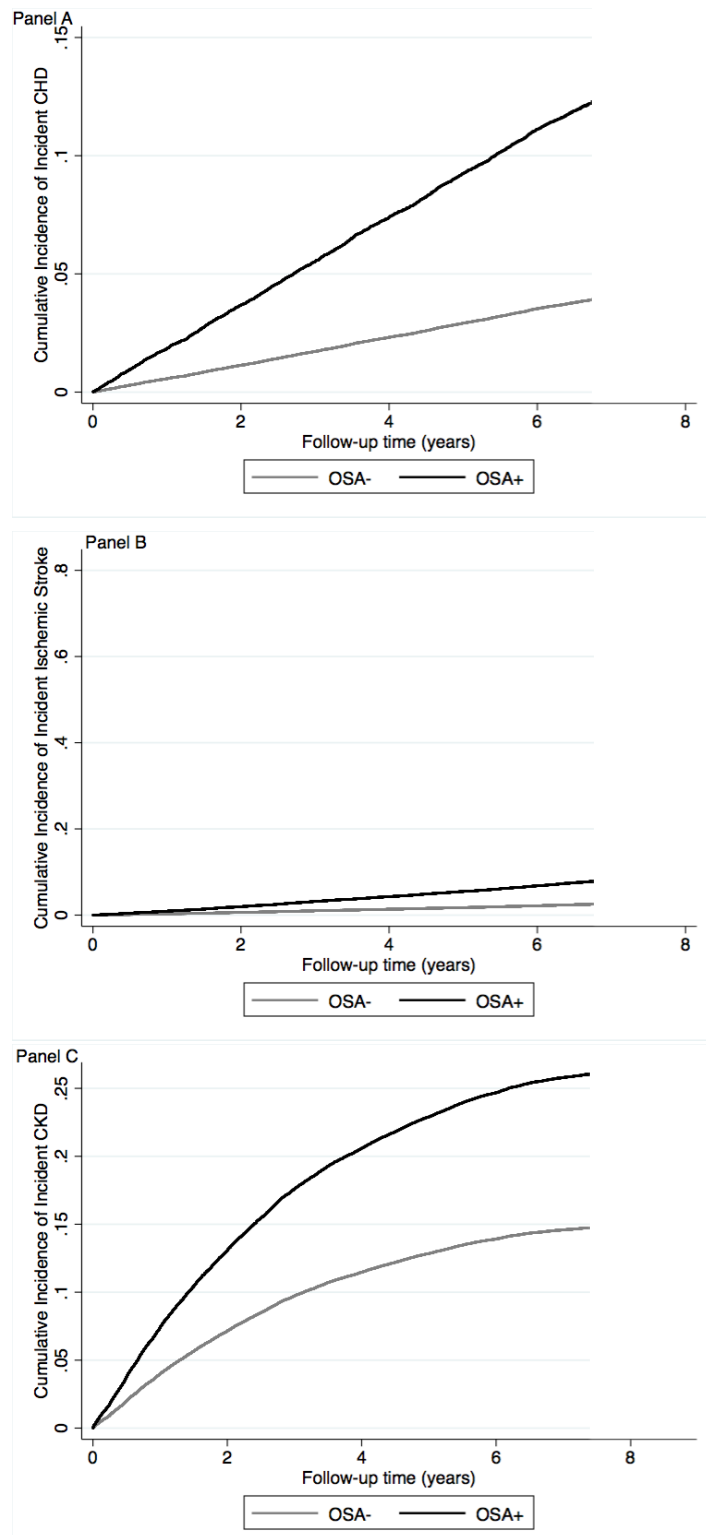


Figure S2:

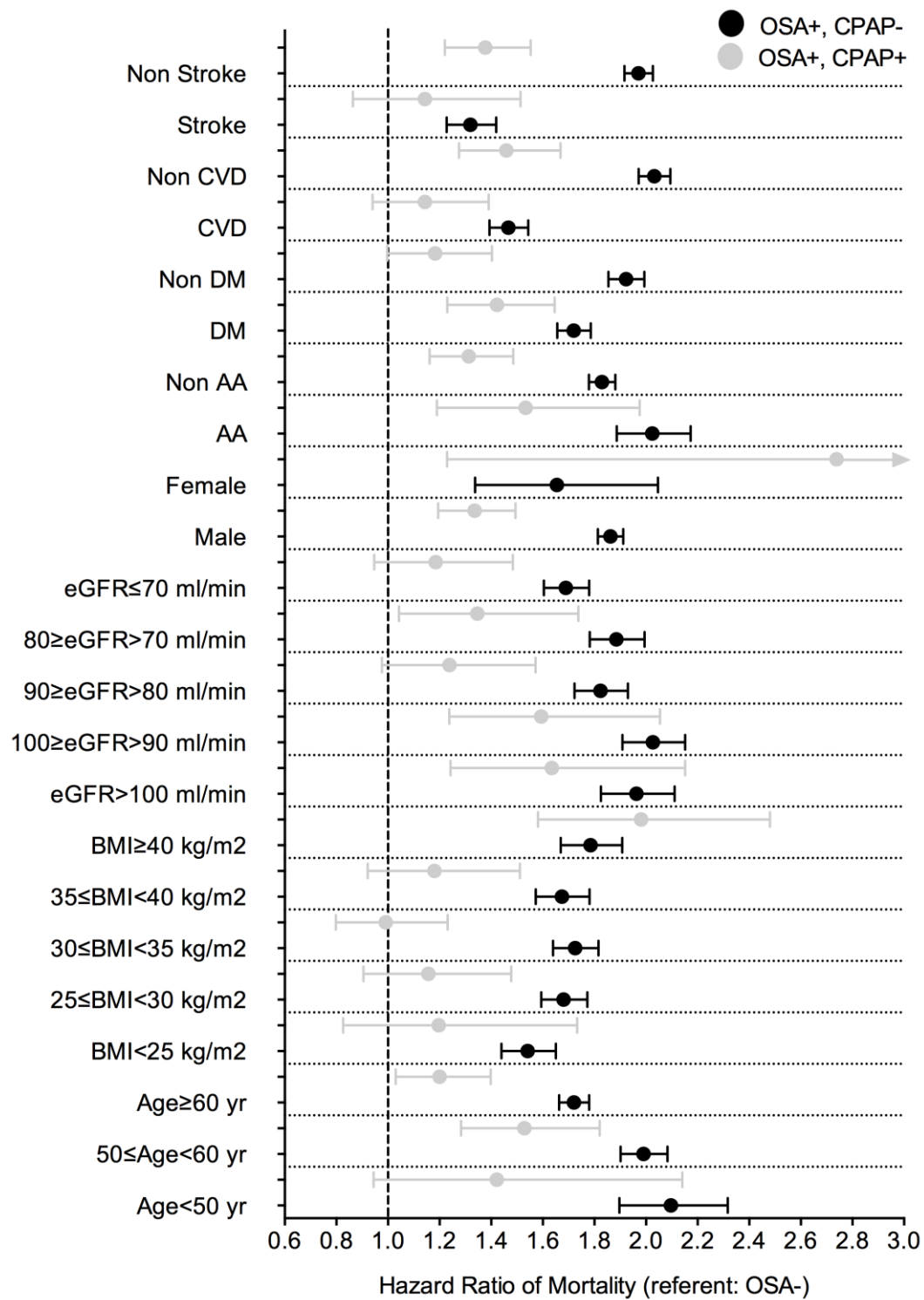


Figure S3:

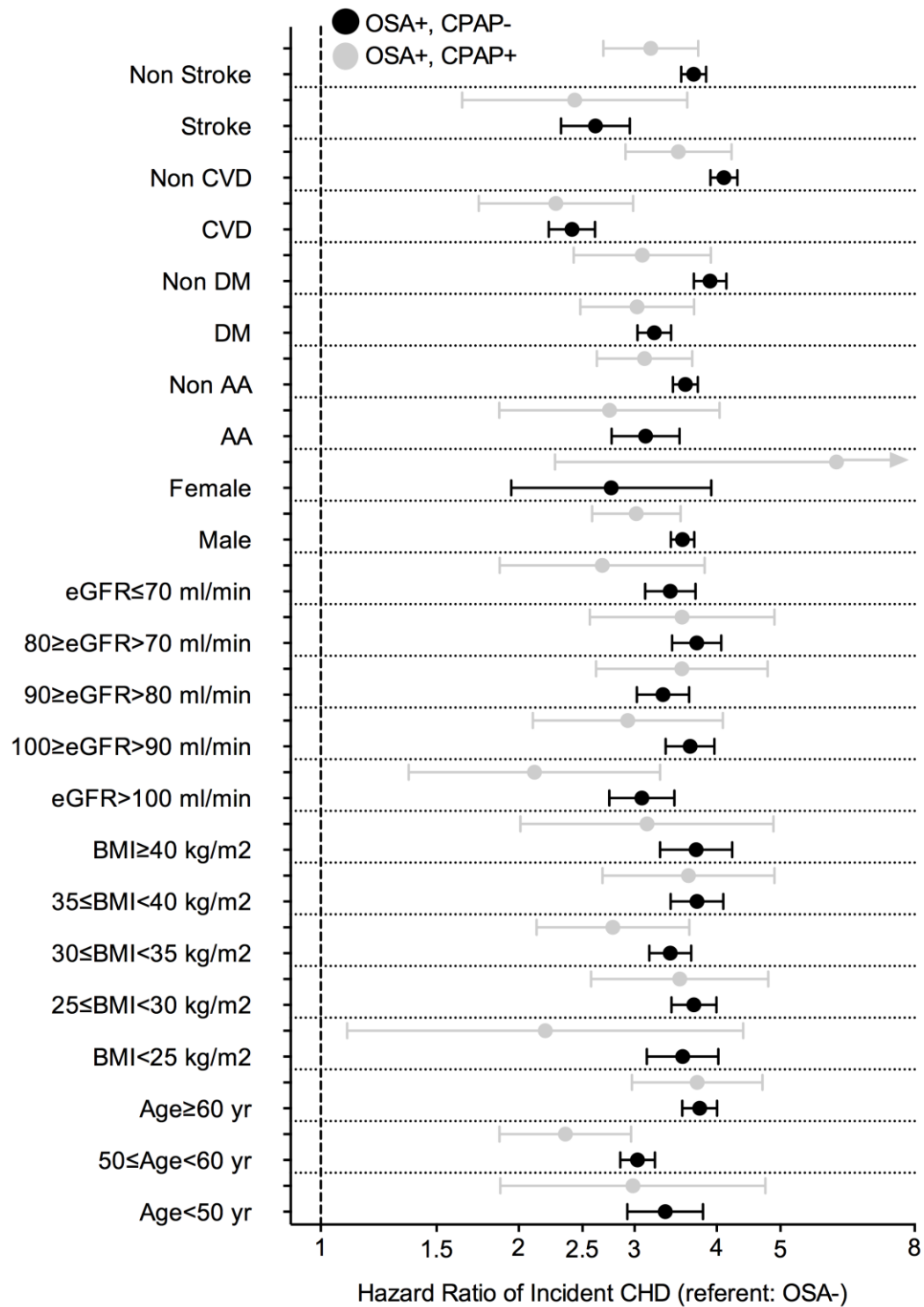


Figure S4:

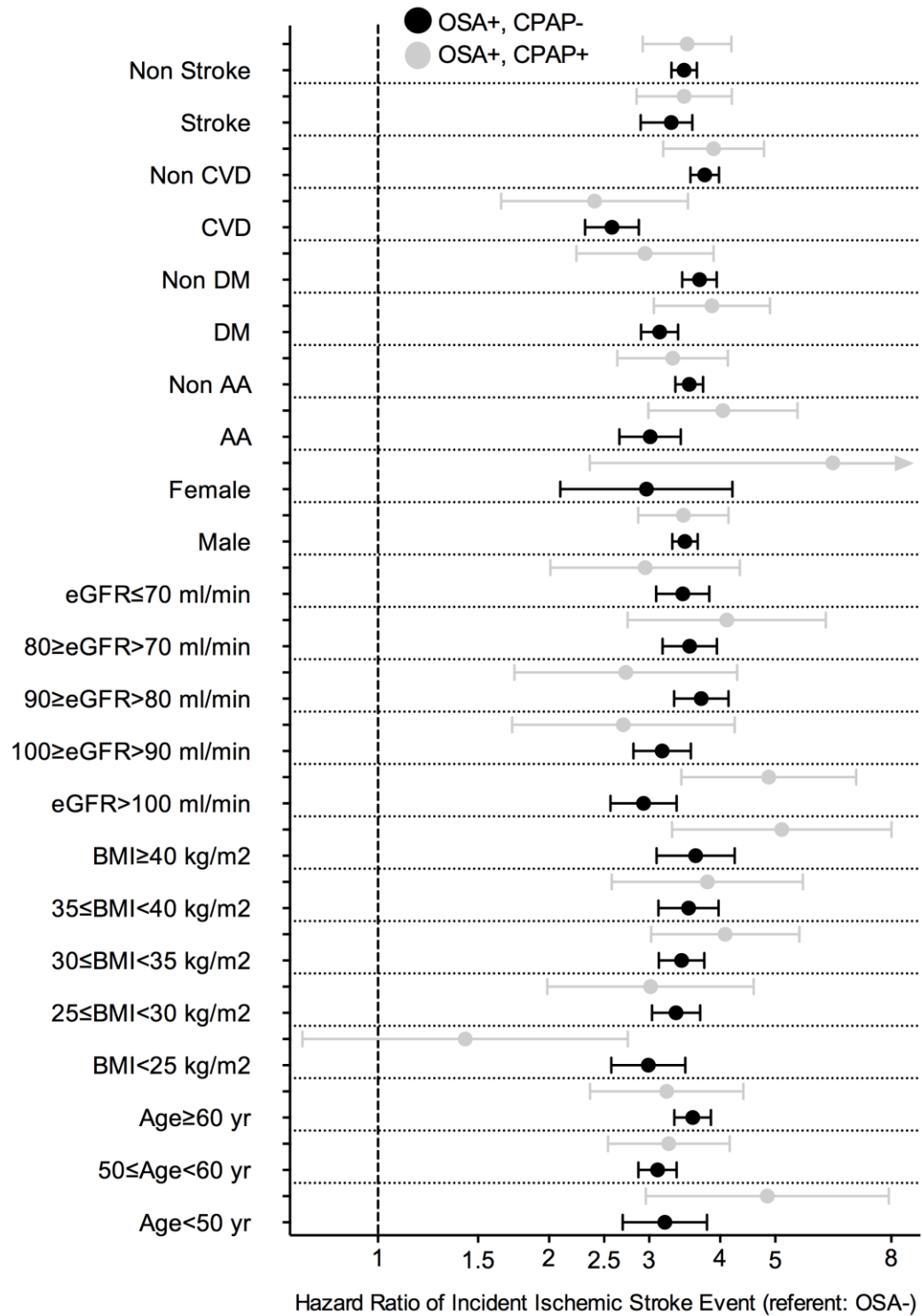


Figure S5:

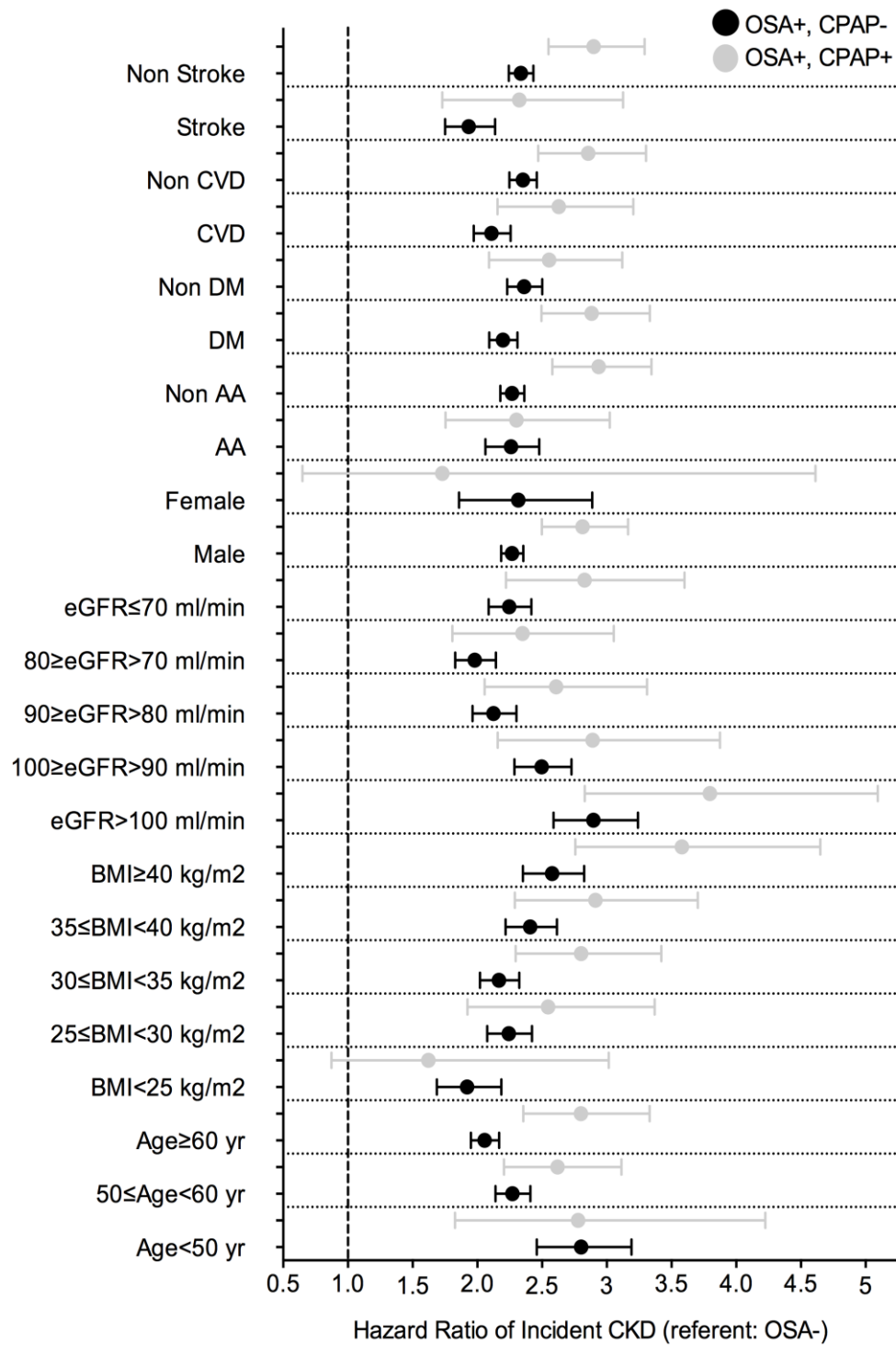


Figure S6:

