

SUPPLEMENTAL MATERIAL

Table S1. Association of cumulative smoking exposure by pack-years with subclinical atherosclerosis in the carotid, coronary, aortic, and peripheral vascular beds in 509 former smokers (SESSA, Shiga, Japan, 2006–2008)

	Never	Pack-years in former smokers			<i>P</i> for trend
	(n = 181)	<16.1 (n = 171)	16.1–36.2 (n = 169)	≥36.3 (n = 169)	
CIMT >1.0 mm, n (%)§	22 (12.6)	20 (11.9)	40 (24.2)	45 (27.3)	
OR	1 (ref)	1.27 (0.63–2.54)	2.2 (1.18–4.10)*	2.28 (1.24–4.21)†	0.003
Carotid plaque, median (25th, 75th)§	2 (0, 3)	1 (0, 3)	2 (1, 4)	3 (2, 5)	
Ratio of expected counts	1 (ref)	1.02 (0.84–1.25)	1.31 (1.08–1.58)†	1.57 (1.30–1.88)‡	<0.001
CAC >0, n (%)	108 (59.7)	96 (56.1)	110 (65.1)	126 (74.6)	
OR	1 (ref)	1.00 (0.61–1.62)	1.07 (0.65–1.75)	1.37 (0.82–2.28)	0.175

CAC \geq 100, n (%)	34 (18.8)	28 (16.4)	47 (27.8)	49 (29.0)	
OR	1 (ref)	1.06 (0.58–1.94)	1.49 (0.85–2.60)	1.41 (0.82–2.44)	0.149
CAC \geq 400, n (%)	11 (6.1)	8 (4.7)	16 (9.5)	22 (13.0)	
OR	1 (ref)	1.04 (0.39–2.82)	1.32 (0.56–3.11)	1.89 (0.83–4.30)	0.048
ABI <1.1, n (%)	45 (24.9)	46 (26.9)	53 (31.4)	67 (39.6)	
OR	1 (ref)	1.15 (0.7–1.87)	1.26 (0.78–2.03)	1.76 (1.09–2.82)*	0.013
AoAC >0, n (%)	132 (72.9)	134 (78.4)	146 (86.4)	162 (95.9)	
OR	1 (ref)	1.84 (0.95–3.56)	2.36 (1.13–4.93)*	5.57 (2.16–14.39)‡	<0.001
AoAC \geq 100, n (%)	98 (54.1)	83 (48.5)	119 (70.4)	146 (86.4)	
OR	1 (ref)	0.88 (0.52–1.49)	1.96 (1.12–3.46)*	4.44 (2.37–8.30)‡	<0.001
AoAC \geq 1000, n (%)	30 (16.6)	33 (19.3)	56 (33.1)	82 (48.5)	
OR	1 (ref)	1.58 (0.85–2.95)	2.18 (1.21–3.92)†	4.38 (2.48–7.75)‡	<0.001

Pack-years groups were categorized according to tertiles of pack-years in former smokers. All abbreviations are shown in Table 2. All values are expressed as ORs and ratios of expected counts with 95% confidence intervals. For dichotomous outcomes, logistic regression was used. For carotid plaque, negative binomial regression was used. Adjusted covariates are shown in Table 2.

* $P < 0.05$; † $P < 0.01$, ‡ $P < 0.001$.

§987 (never, 174; former, 498 [pack-years <16.1, 168; 16.1–36.2, 165; ≥36.3, 165]) men underwent measurement of carotid atherosclerosis.

Table S2. Association of smoking intensity by daily cigarette consumption with subclinical atherosclerosis in the carotid, coronary, aortic, and peripheral vascular beds in 1019 men (SESSA, Shiga, Japan, 2006–2008)

	Never (n = 181)	Daily cigarette consumption in former smokers			<i>P</i> for trend	Daily cigarette consumption in current smokers			<i>P</i> for trend
		<20 (n = 167)	20 (n = 194)	≥21 (n = 148)		<16 (n = 111)	16–20 (n = 123)	≥21 (n = 95)	
CIMT >1.0 mm, n (%)§	22 (12.6)	34 (20.7)	40 (21.3)	31 (21.2)		15 (14.4)	15 (12.7)	15 (16.1)	
OR	1 (ref)	1.64 (0.87–3.11)	2.18 (1.17–4.06)*	2.04 (1.06–3.95)*	0.019	1.55 (0.71–3.36)	1.74 (0.80–3.79)	2.76 (1.23–6.20)*	0.016
Carotid plaque, median (25th, 75th)§	2 (0, 3)	2 (1, 3)	2 (1, 4)	2 (1, 5)		1 (0, 4)	2 (0, 4)	2 (1, 4)	
Ratio of expected counts	1 (ref)	1.03 (0.85–1.26)	1.33 (1.11–1.60)†	1.57 (1.29–1.90)‡	<0.001	1.23 (0.98–1.53)	1.41 (1.13–1.75)†	1.67 (1.33–2.09)‡	<0.001

CAC >0, n (%)	108 (59.7)	108 (64.7)	121 (62.4)	103 (69.6)		74 (66.7)	75 (61.0)	62 (65.3)	
OR	1 (ref)	1.03 (0.62–1.71)	1.04 (0.65–1.68)	1.38 (0.82–2.31)	0.335	1.85 (1.04–3.27)*	1.65 (0.96–2.84)	1.98 (1.09–3.59)*	0.028
CAC ≥100, n (%)	34 (18.8)	38 (22.8)	49 (25.3)	37 (25.0)		31 (27.9)	27 (22.0)	23 (24.2)	
OR	1 (ref)	1.12 (0.63–1.99)	1.46 (0.85–2.52)	1.42 (0.79–2.54)	0.144	2.18 (1.17–4.08)*	1.88 (0.99–3.56)	2.18 (1.09–4.36)*	0.103
CAC ≥400, n (%)	11 (6.1)	10 (6.0)	20 (10.3)	16 (10.8)		14 (12.6)	11 (8.9)	11 (11.6)	
OR	1 (ref)	0.88 (0.34–2.25)	1.71 (0.75–3.93)	1.84 (0.77–4.39)	0.055	2.86 (1.14–7.13)*	2.21 (0.84–5.82)	2.99 (1.11–8.09)*	0.084
ABI <1.1, n (%)	45 (24.9)	52 (31.1)	56 (28.9)	58 (39.2)		39 (35.1)	50 (40.7)	31 (32.6)	
OR	1 (ref)	1.20	1.19	1.83	0.032	1.60	2.20	1.57	0.025

		(0.74–1.96)	(0.75–1.91)	(1.12–2.99)*		(0.94–2.74)	(1.31–3.70)†	(0.88–2.80)	
AoAC >0, n (%)	132 (72.9)	139 (83.2)	168 (86.6)	135 (91.2)		92 (82.9)	103 (83.7)	81 (85.3)	
OR	1 (ref)	1.46 (0.71–3.00)	2.55 (1.26–5.13)†	5.05 (2.18–11.67)‡	<0.001	3.82 (1.66–8.79)†	4.15 (1.93–8.90)‡	5.40 (2.31–12.63)‡	<0.001
AoAC ≥100, n (%)	98 (54.1)	103 (61.7)	129 (66.5)	116 (78.4)		73 (65.8)	82 (66.7)	62 (65.3)	
OR	1 (ref)	0.95 (0.55–1.66)	1.69 (0.99–2.89)	4.44 (2.36–8.34)‡	<0.001	2.91 (1.49–5.68)†	4.27 (2.25–8.10)‡	4.22 (2.10–8.47)‡	<0.001
AoAC ≥1000, n (%)	30 (16.6)	46 (27.5)	71 (36.6)	54 (36.5)		34 (30.6)	42 (34.1)	27 (28.4)	
OR	1 (ref)	1.57 (0.86–2.86)	3.39 (1.92–6.00)‡	3.31 (1.80–6.07)‡	<0.001	2.95 (1.51–5.76)†	6.04 (3.08–11.83)‡	4.02 (1.91–8.45)‡	<0.001

Groups were divided according to tertiles of daily cigarette consumption in each smoker. All abbreviations are shown in Table 2. All values are expressed as ORs and ratios of expected counts with 95% confidence intervals. For dichotomous outcomes, logistic regression was used. For carotid plaque, negative binomial regression was used. Adjusted covariates are shown in Table 2.

* $P < 0.05$; † $P < 0.01$, ‡ $P < 0.001$.

§987 (never, 174; former, 498 [daily cigarette consumption < 20 , 164; 20, 188; ≥ 21 , 146]; current, 315 [daily cigarette consumption < 16 , 104; 16–20, 118; ≥ 21 , 93]) men underwent measurement of carotid atherosclerosis.

Table S3. Association of smoking cessation interval with subclinical atherosclerosis in carotid, coronary, aortic, and peripheral vascular beds in 1019 men aged 40–79 years (SESSA, Shiga, Japan, 2006–2008)

	Current (n = 329)	Cessation interval in former smokers			Never (n = 181)	<i>P</i> for trend
		<10.4 years (n = 169)	10.4–24.3 years (n = 170)	≥24.4 years (n = 170)		
CIMT >1.0 mm, n (%)§	45 (14.3)	32 (19.4)	40 (24.0)	33 (19.9)	22 (12.6)	
OR	1 (ref)	1.06 (0.61–1.86)	1.17 (0.68–2.02)	0.82 (0.47–1.43)	0.62 (0.31–1.24)	0.143
Carotid plaque, median (25th, 75th)§	2 (0, 4)	2 (1, 4)	2 (1, 4)	2 (1, 4)	2 (0, 3)	
Ratio of expected counts	1 (ref)	1.03 (0.88–1.21)	0.84 (0.71–0.99)*	0.82 (0.69–0.97)*	0.86 (0.72–1.05)	0.046
CAC >0, n (%)	211 (64.1)	112 (66.3)	108 (63.5)	112 (65.9)	108 (59.7)	
OR	1 (ref)	0.82 (0.52–1.29)	0.54 (0.34–0.85)†	0.53 (0.33–0.83)†	0.61 (0.36–1.04)	0.020

CAC \geq 100, n (%)	81 (24.6)	40 (23.7)	42 (24.7)	42 (24.7)	34 (18.8)	
OR	1 (ref)	0.71 (0.43–1.17)	0.65 (0.39–1.07)	0.58 (0.35–0.95)*	0.49 (0.27–0.88)*	0.012
CAC \geq 400, n (%)	36 (10.9)	15 (8.9)	21 (12.4)	10 (5.9)	11 (6.1)	
OR	1 (ref)	0.58 (0.28–1.17)	0.78 (0.40–1.52)	0.29 (0.13–0.67)†	0.39 (0.16–0.97)*	0.016
ABI <1.1, n (%)	120 (36.5)	63 (37.3)	54 (31.8)	49 (28.8)	45 (24.9)	
OR	1 (ref)	0.97 (0.65–1.45)	0.70 (0.46–1.06)	0.61 (0.40–0.94)*	0.62 (0.37–1.03)	0.016
AoAC >0, n (%)	276 (83.9)	145 (85.8)	145 (85.3)	152 (89.4)	132 (72.9)	
OR	1 (ref)	0.95 (0.47–1.94)	0.48 (0.23–0.99)*	0.37 (0.18–0.76)†	0.43 (0.19–0.97)*	0.017
AoAC \geq 100, n (%)	217 (66.0)	119 (70.4)	119 (70.0)	110 (64.7)	98 (54.1)	
OR	1 (ref)	0.86 (0.49–1.50)	0.51 (0.29–0.88)*	0.27 (0.16–0.46)†	0.44 (0.23–0.82)*	<0.001
AoAC \geq 1000, n (%)	103 (31.3)	57 (33.7)	69 (40.6)	45 (26.5)	30 (16.6)	
OR	1 (ref)	0.74 (0.45–1.22)	0.87 (0.54–1.42)	0.37 (0.23–0.62)‡	0.29 (0.15–0.55)‡	<0.001

The reference category is current smokers. Cessation interval groups were categorized according to tertiles of years since smoking cessation. All abbreviations are shown in Table 2. All values are expressed as ORs and ratios of expected counts with 95% confidence intervals. The statistical analyses are shown in Table 2. Adjusted covariates included age, body mass index, systolic blood pressure, total cholesterol, high-density lipoprotein cholesterol, medication for hypertension and dyslipidemia (yes/no), diabetes mellitus (yes/no), alcohol intake (g/week), exercise (yes/no), C-reactive protein, and daily cigarette consumption (for current smokers, daily amount of smoking; for former smokers, daily amount of prior smoking). The CT type was further included concomitantly when CAC and AoAC were analyzed.

* $P < 0.05$; † $P < 0.01$, ‡ $P < 0.001$.

§987 (current, 315; former, 498 [cessation interval <10.4 years, 165; 10.4–24.3 years, 167; ≥24.4 years, 166]; never, 174) men underwent measurement of carotid atherosclerosis.

Table S4. Association of smoking cessation interval with subclinical atherosclerosis in the carotid, coronary, aortic, and peripheral vascular beds in 509 former smokers (SESSA, Shiga, Japan, 2006–2008)

	Never (n = 181)	Cessation interval in former smokers			<i>P</i> for trend
		≥24.4 years (n = 170)	10.4–24.3 years (n = 170)	<10.4 years (n = 169)	
CIMT >1.0 mm, n (%)§	22 (12.6)	33 (19.9)	40 (24.0)	32 (19.4)	
OR	1 (ref)	1.53 (0.81–2.90)	2.32 (1.24–4.34)†	2.08 (1.08–3.98)*	0.013
Carotid plaque, median (25th, 75th)§	2 (0, 3)	2 (1, 4)	2 (1, 4)	2 (1, 4)	
Ratio of expected counts	1 (ref)	1.14 (0.94–1.39)	1.25 (1.03–1.52)*	1.53 (1.26–1.85)‡	<0.001
CAC >0, n (%)	108 (59.7)	112 (65.5)	108 (63.5)	112 (66.3)	
OR	1 (ref)	0.94 (0.58–1.55)	0.99 (0.60–1.63)	1.53 (0.92–2.53)	0.005

CAC \geq 100, n (%)	34 (18.8)	34 (18.8)	42 (24.7)	42 (24.7)	
OR	1 (ref)	1.20 (0.69–2.10)	1.35 (0.77–2.36)	1.48 (0.83–2.62)	0.008
CAC \geq 400, n (%)	11 (6.1)	10 (5.9)	21 (12.4)	15 (8.9)	
OR	1 (ref)	0.79 (0.31–2.04)	2.15 (0.94–4.91)	1.58 (0.65–3.79)	0.008
ABI <1.1, n (%)	45 (24.9)	49 (28.8)	54 (31.8)	63 (37.3)	
OR	1 (ref)	1.09 (0.67–1.77)	1.29 (0.80–2.09)	1.80 (1.12–2.90)*	0.002
AoAC >0, n (%)	132 (72.9)	152 (89.4)	145 (85.3)	145 (85.8)	
OR	1 (ref)	1.51 (0.74–3.10)	2.23 (1.06–4.70)†	4.90 (2.27–10.59)‡	<0.001
AoAC \geq 100, n (%)	98 (54.1)	110 (64.7)	119 (70.0)	119 (70.4)	
OR	1 (ref)	0.96 (0.56–1.63)	2.10 (1.18–3.72)†	3.69 (2.02–6.75)‡	<0.001
AoAC \geq 1000, n (%)	30 (16.6)	45 (26.5)	69 (40.6)	57 (33.7)	
OR	1 (ref)	1.51 (0.84–2.73)	3.77 (2.11–6.73)‡	3.18 (1.75–5.77)‡	<0.001

The reference category is never smokers. Cessation interval groups were categorized according to tertiles of years since smoking cessation. All abbreviations are shown in Table 2. All values are expressed as ORs and ratios of expected counts with 95% confidence intervals. For dichotomous outcomes, logistic regression was used. For carotid plaque, negative binomial regression was used. Adjusted covariates are shown in Table 2.

* $P < 0.05$; † $P < 0.01$, ‡ $P < 0.001$.

§987 (never, 174; 498 [cessation interval ≥ 24.4 years, 166; 10.4–24.3 years, 167; < 10.4 years, 165]) men underwent measurement of carotid atherosclerosis.