

## Supplementary Online Content

Han D, Berman DS, Miller RJH, et al. Association of cardiovascular disease risk factor burden with progression of coronary atherosclerosis assessed by serial coronary computed tomographic angiography. *JAMA Netw Open*. 2020;3(7):e2011444.  
doi:10.1001/jamanetworkopen.2020.11444

**eTable 1.** Annualized PAV Progression and Development of New APC According to ASCVD Risk Score

**eTable 2.** Baseline Characteristics of Patients With High ASCVD Risk According to Rapid Plaque Progression

**eTable 3.** Difference Between Analyzed and Excluded Patients Due to Image Quality

**eFigure.** Association Between ASCVD Risk Score and Annualized Plaque Progression

This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1.** Annualized PAV Progression and Development of New APC According to ASCVD Risk Score

	All	Low risk	Intermediate risk	High risk	<i>P</i> value for trend	<i>P</i> value for low vs. intermediate	<i>P</i> value for low to intermediate vs. high
Total plaque	0.592 ± 0.859	0.454 ± 0.734	0.584 ± 0.753	0.989 ± 1.207	<.001	.03	<.001
Calcified plaque	0.342 ± 0.616	0.233 ± 0.506	0.356 ± 0.611	0.607 ± 0.797	<.001	.004	<.001
Noncalcified plaque	0.250 ± 0.733	0.220 ± 0.662	0.227 ± 0.600	0.382 ± 1.089	<.001	.88	.01
Fibrous plaque	0.220 ± 0.524	0.209 ± 0.503	0.206 ± 0.442	0.280 ± 0.712	.26	.93	.10
Fibrofatty plaque	0.029 ± 0.349	0.013 ± 0.329	0.025 ± 0.285	0.085 ± 0.499	.07	.62	.02
Low-attenuation plaque	0.002 ± 0.008	0.000 ± 0.082	0.002 ± 0.08	0.017 ± 0.082	.03	.85	.008
New positive remodeling	357 (35.5)	151 (32.6)	133 (35.7)	73 (43.2)	.05	.36	.02
New low-attenuation plaque	105 (10.4)	44 (9.5)	35 (9.4)	26 (15.4)	.07	.95	.02
New spotty calcification	143 (14.2)	52 (11.2)	54 (14.5)	37 (21.9)	.003	.16	.002

Abbreviations: ASCVD, atherosclerotic cardiovascular disease; PAV, percent atheroma volume; APC, adverse plaque characteristics

Values are shown as mean ± standard deviation or number (percentage).

**eTable 2.** Baseline Characteristics of Patients With High ASCVD Risk According to Rapid Plaque Progression

	No rapid progression (n = 92)	Rapid progression (n = 77)	<i>P</i> value
Age, y	69 ± 6	69±5.2	.99
Male	27 (29.3)	50 (64.9)	.02
Body mass index	25.7 ± 30	25.8±3.6	.76
Clinical symptoms			.24
Asymptomatic	21 (22.8)	8 (10.4)	.03
Shortness of breath	6 (6.5)	6 (7.8)	.75
Atypical chest pain	58 (63.0)	55 (71.4)	.25
Noncardiac chest pain	5 (5.4)	3 (3.9)	.64
Typical chest pain	2 (2.2)	4 (5.2)	.29
Hypertension	56 (60.9)	59 (76.6)	.04
Diabetes	36 (39.1)	48 (62.3)	.003
Dyslipidemia	35 (38.0)	28 (36.4)	.78
Current smoker	22 (23.9)	32 (41.6)	.01
ASCVD score	27.5 ± 8.5	29.9 ± 10.6	.10
Baseline CCTA characteristics			
Presence of any plaque	76 (82.6)	77 (100.0)	<.001
Plaque volume, mm <sup>3</sup>			
Total plaque	57.8 (20.5-120.3)	185.7 (93.9-367.7)	<.001
Calcified plaque	13.6 (0-43.3)	56.7 (23.4-129.2)	<.001
Noncalcified plaque	38.9 (10.4-85.3)	118.5 (52.7-228.4)	<.001
Fibrous plaque	26.1 (7.2-60.4)	79.8 (40.2-156.3)	<.001
Fibrofatty plaque	5.3 (0.2-25.4)	19.5 (4.2-52.7)	<.001
Low-attenuation plaque	0.1 (0-1.9)	0.72 (0-5.4)	.01
APCs			
Any APCs	72 (78.3)	76 (98.7)	<.001
Positive remodeling	70 (76.1)	74 (96.1)	<.001
Low-attenuation plaque	19 (20.7)	30 (38.9)	.009
Spotty calcification	22 (23.9)	26 (33.8)	.12

Abbreviations: APC, adverse plaque characteristics; ASCVD, atherosclerotic cardiovascular disease; CCTA, coronary computed tomographic angiography.

Values are shown as mean ± standard deviation, median (interquartile range) or number (percentage).

**eTable 3.** Difference Between Analyzed and Excluded Patients Due to Image Quality

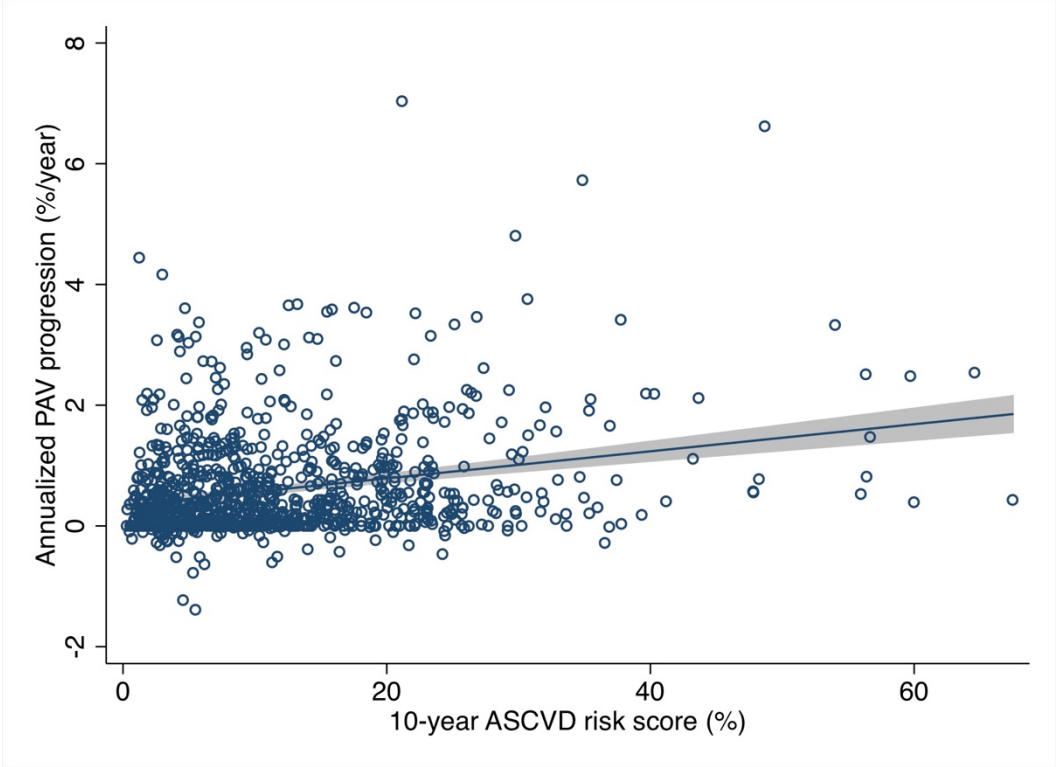
	Analyzed (n = 1005)	Excluded due to image quality (n = 754)	<i>P</i> value
Age, y	60 ± 8	63 ± 10	<.001
Male	575 (57.2)	502 (66.6)	<.001
Body mass index	25.3 ± 3.1	25.6 ± 3.6	.02
Clinical symptoms			.26
Asymptomatic	135 (13.4)	287 (38.1)	<.001
Shortness of breath	53 (5.3)	70 (9.3)	.004
Atypical chest pain	694 (69.1)	348 (46.2)	<.001
Noncardiac chest pain	80 (7.9)	47 (6.2)	.04
Typical chest pain	37 (3.7)	45 (5.9)	.02
Hypertension	505 (50.3)	485 (64.3)	<.001
Diabetes	198 (19.7)	208 (27.6)	<.001
Dyslipidemia	396 (39.4)	360 (47.8)	<.001
Current smoker	181 (18.0)	150 (19.9)	.22
Medications at baseline			
Aspirin	350 (34.8)	405 (53.7)	<.001
Beta blocker	232 (23.1)	345 (45.8)	<.001
ACE inhibitor/ARB	266 (26.5)	296 (39.3)	<.001
Statin use	363 (36.2)	420 (55.7)	<.001

Abbreviations: ACE, angiotensin-converting enzyme; ARB, angiotensin II receptor blockers; ASCVD, atherosclerotic cardiovascular disease.

Values are shown as mean ± standard deviation or number (percentage).

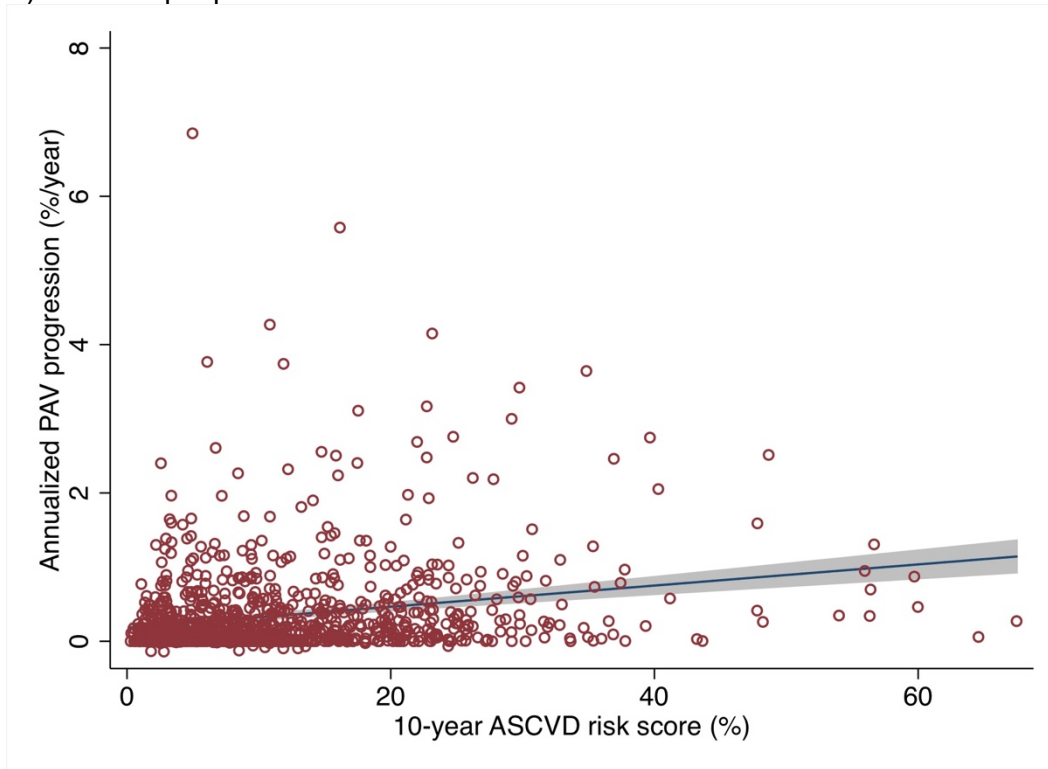
**eFigure.** Association Between ASCVD Risk Score and Annualized Plaque Progression

A) Total plaque



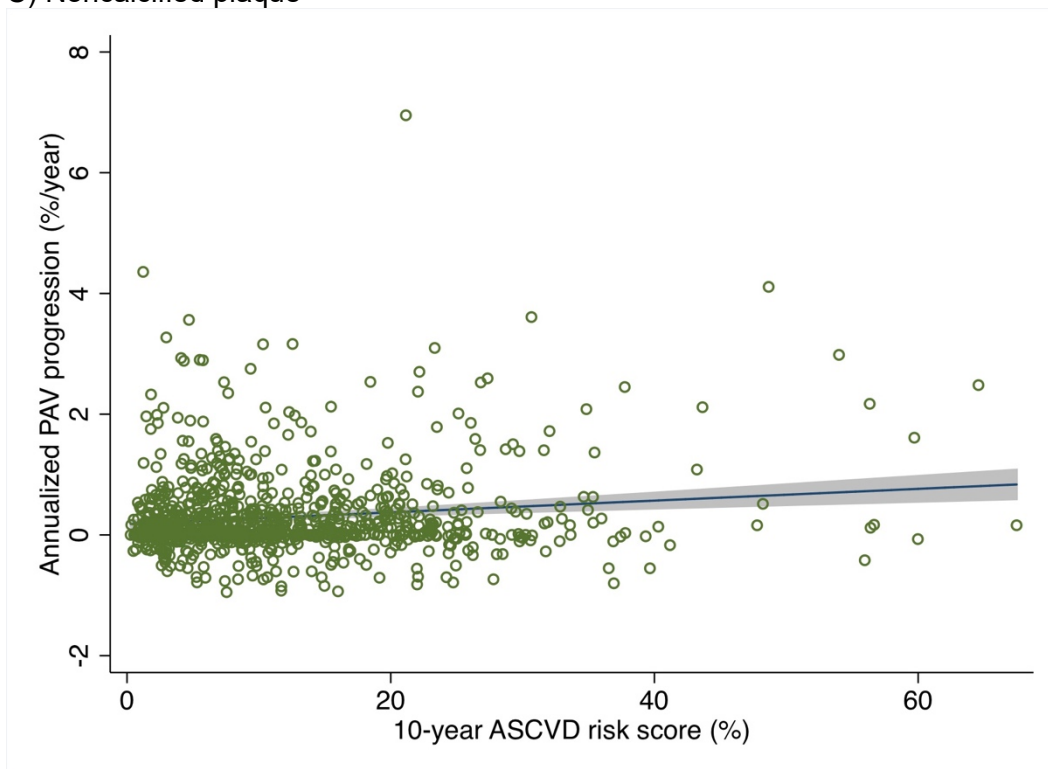
Abbreviation: ASCVD, atherosclerotic cardiovascular disease. PAV, Percent atheroma volume

B) Calcified plaque



Abbreviation: ASCVD, atherosclerotic cardiovascular disease. PAV, Percent atheroma volume

C) Noncalcified plaque



Abbreviation: ASCVD, atherosclerotic cardiovascular disease. PAV, Percent atheroma volume