

## Supplementary material

### Parental coronary and peripheral artery disease and artery segments in patients and partners – The first and second generation in the Norwegian Stroke in the Young Study

Beenish Nawaz<sup>1,2</sup>, Sahrai Saeed<sup>3</sup>, Jörg Assmus<sup>4</sup>, Annette Fromm<sup>2</sup>, Halvor Øygarden<sup>5,6</sup>, Solveig Boland<sup>7</sup>, Halvor Næss<sup>2</sup>, Ulrike Waje-Andreassen<sup>2</sup>

<sup>1</sup>Department of Clinical Medicine I, University of Bergen, Bergen, Norway

<sup>2</sup>Department of Neurology, Haukeland University Hospital, Bergen, Norway

<sup>3</sup>Department of Cardiology, Oslo University Hospital, Ullevaal, Oslo, Norway

<sup>4</sup>Centre for Clinical Research, Haukeland University Hospital, Bergen, Norway

<sup>5</sup>Department of Neurology, Sørlandet Hospital, Kristiansand, Norway

<sup>6</sup>Institute of Clinical medicine, University of Oslo, Oslo, Norway

<sup>7</sup>Department of Medicine, Sykehuset Innlandet, Hamar, Norway

**Table 1a** | Association between positive parental coronary artery disease (CAD) and parental peripheral artery disease (PAD) and arterial outcome measurements among 639 study participants, adjusted for age, sex and vascular risk factors.

Continuous variables	Reported parental CAD			Verified parental CAD			Reported parental PAD			Verified parental PAD		
	n	Coefficient (95% CI)	P value	n	Coefficient (95% CI)	P value	n	Coefficient (95% CI)	P-value	n	Coefficient (95% CI)	P value
<b>Mean cIMT<sup>a</sup> Crude</b>	564	0.21 (0.08, 0.34)	0.002	270	0.39 (0.23, 0.56)	<0.001	552	0.31 (0.11, 0.51)	0.002	240	0.38 (0.15, 0.62)	0.002
Adjusted for sex	564	0.21 (0.09, 0.34)	<b>0.001</b>	270	0.38 (0.21, 0.54)	<0.001	552	0.31 (0.12, 0.50)	0.002	240	0.37 (0.14, 0.61)	0.002
Adjusted for age	564	0.08 (-0.04, 0.21)	0.197	270	0.20 (0.03, 0.37)	0.023	552	0.22 (0.03, 0.40)	0.020	240	0.20 (-0.02, 0.42)	0.079
Adjusted for RF <sup>b</sup>	563	0.12 (-0.01, 0.24)	0.062	268	0.26 (0.10, 0.42)	0.002	552	0.23 (0.05, 0.42)	0.012	239	0.25 (0.03, 0.47)	0.026
Adjusted for age, RF <sup>b</sup>	563	0.05 (-0.08, 0.17)	0.456	268	0.16 (-0.01, 0.33)	0.063	552	0.19 (0.01, 0.37)	0.039	239	0.14 (-0.07, 0.36)	0.188
<b>Mean fIMT<sup>a</sup> Crude</b>	561	0.30 (0.13, 0.46)	<0.001	270	0.49 (0.28, 0.70)	<0.001	547	0.32 (0.08, 0.56)	0.010	240	0.50 (0.22, 0.79)	0.001
Adjusted for sex	561	0.31 (0.15, 0.47)	<0.001	270	0.45 (0.25, 0.65)	<0.001	547	0.32 (0.09, 0.55)	0.007	240	0.46 (0.18, 0.75)	0.001
Adjusted for age	561	0.15 (-0.01, 0.32)	0.063	270	0.26 (0.04, 0.47)	0.019	547	0.22 (-0.01, 0.45)	0.061	240	0.32 (0.04, 0.60)	0.025
Adjusted for RF <sup>b</sup>	560	0.16 (0.01, 0.31)	0.040	268	0.28 (0.08, 0.48)	0.005	547	0.21 (-0.00, 0.43)	0.054	239	0.36 (0.10, 0.63)	0.007
Adjusted for age, RF <sup>b</sup>	560	0.09 (-0.06, 0.24)	0.242	268	0.18 (-0.02, 0.39)	0.078	547	0.17 (-0.04, 0.39)	0.114	239	0.28 (0.01, 0.54)	0.039
Dichotomous variables	n	OR (95% CI)	P value	n	OR (95% CI)	P value	n	OR (95% CI)	P value	n	OR (95% CI)	P value
<b>Ischaemic ECG<sup>c</sup> Crude</b>	563	1.34 (0.72, 2.50)	0.363	269	0.46 (0.17, 1.20)	0.113	553	0.56 (0.17, 1.88)	0.349	239	1.23 (0.33, 4.50)	0.758
Adjusted for sex	563	1.35 (0.72, 2.52)	0.352	269	0.46 (0.18, 1.23)	0.122	553	0.56 (0.17, 1.87)	0.344	239	1.26 (0.34, 4.65)	0.729
Adjusted for age	563	1.22 (0.65, 2.32)	0.534	269	0.38 (0.14, 1.05)	0.061	553	0.53 (0.16, 1.76)	0.298	239	1.08 (0.28, 4.14)	0.906
Adjusted for RF <sup>b</sup>	563	1.10 (0.57, 2.11)	0.769	268	0.29 (0.10, 0.85)	0.025	553	0.48 (0.14, 1.67)	0.254	239	1.20 (0.31, 4.67)	0.783
Adjusted for age, RF <sup>b</sup>	563	1.08 (0.56, 2.09)	0.811	268	0.28 (0.09, 0.85)	0.025	553	0.48 (0.14, 1.66)	0.249	239	1.20 (0.30, 4.78)	0.794
<b>AAP<sup>c</sup> Crude</b>	520	2.00 (1.40, 2.86)	<0.001	250	2.49 (1.47, 4.22)	0.001	512	1.58 (0.93, 2.71)	0.092	225	1.36 (0.65, 2.86)	0.409
Adjusted for sex	520	2.04 (1.42, 2.93)	<0.001	250	2.40 (1.40, 4.09)	0.001	512	1.57 (0.92, 2.71)	0.101	225	1.30 (0.61, 2.74)	0.498
Adjusted for age	520	1.55 (1.06, 2.26)	0.025	250	1.38 (0.76, 2.51)	0.286	512	1.35 (0.77, 2.38)	0.294	225	0.76 (0.34, 1.70)	0.505
Adjusted for RF <sup>b</sup>	519	1.68 (1.13, 2.49)	0.010	249	1.65 (0.91, 3.02)	0.102	512	1.23 (0.67, 2.25)	0.487	224	0.95 (0.41, 2.19)	0.910
Adjusted for age, RF <sup>b</sup>	519	1.42 (0.95, 2.14)	0.090	249	1.10 (0.57, 2.11)	0.769	512	1.14 (0.62, 2.11)	0.664	224	0.65 (0.27, 1.54)	0.329
<b>AAI ≤ 0.9<sup>c</sup> Crude</b>	544	1.40 (0.61, 3.24)	0.429	260	1.26 (0.35, 4.56)	0.728	532	3.69 (1.35, 10.09)	<b>0.011</b>	232	1.65 (0.33, 8.27)	0.546
Adjusted for sex	544	1.42 (0.61, 3.28)	0.415	260	1.33 (0.36, 4.85)	0.669	532	3.68 (1.35, 10.07)	0.011	232	1.73 (0.34, 8.76)	0.511
Adjusted for age	544	1.13 (0.49, 2.63)	0.775	260	0.70 (0.19, 2.64)	0.601	532	3.24 (1.17, 8.96)	0.023	232	0.85 (0.16, 4.63)	0.854
Adjusted for RF <sup>b</sup>	543	1.11 (0.46, 2.71)	0.804	170	0.76 (0.16, 3.46)	0.728	532	3.13 (1.09, 8.92)	0.033	149	1.34 (0.23, 7.53)	0.739
Adjusted for age, RF <sup>b</sup>	543	1.02 (0.42, 2.50)	0.949	170	0.49 (0.10, 2.39)	0.381	532	3.04 (1.05, 8.80)	0.039	149	0.89 (0.14, 5.58)	0.906

Abbreviations: n = number of observations; CI = confidence interval; cIMT = carotid intima-media thickness; RF = risk factors; fIMT = femoral intima-media thickness; ECG = electrocardiogram; AAP = abdominal aorta plaques; AAI = ankle-arm index.

<sup>a</sup>Coefficient using linear regression; <sup>b</sup>RF are hypertension, diabetes mellitus, dyslipidaemia, smoking; <sup>c</sup>Odds ratio using multiple regression.

**Table 1b** | Association between positive parental coronary artery disease (CAD) and parental peripheral artery disease (PAD) and arterial outcome measurements among 168 study participants aged  $\leq 45$  years, adjusted for age, sex and vascular risk factors.

Continuous variables	Reported parental CAD			Verified parental CAD			Reported parental PAD			Verified parental PAD		
	n	Coefficient (95% CI)	P value	n	Coefficient (95% CI)	P value	n	Coefficient (95% CI)	P-value	n	Coefficient (95% CI)	P value
<b>Mean cIMT<sup>a</sup> Crude</b>	150	0.16 (0.05, 0.27)	0.003	89	0.06 (-0.04, 0.16)	0.232	152	0.15 (-0.04, 0.33)	0.119	87	0.02 (-0.20, 0.24)	0.857
Adjusted for sex	150	0.17 (0.06, 0.27)	<b>0.002</b>	89	0.07 (-0.03, 0.17)	0.145	152	0.15 (-0.03, 0.34)	0.094	87	0.03 (-0.19, 0.25)	0.759
Adjusted for age	150	0.09 (-0.02, 0.19)	0.101	89	0.01 (-0.09, 0.10)	0.898	152	0.09 (-0.08, 0.26)	0.294	87	-0.10 (-0.29, 0.10)	0.340
Adjusted for RF <sup>b</sup>	150	0.13 (0.04, 0.23)	0.008	89	0.07 (-0.03, 0.17)	0.165	152	0.14 (-0.03, 0.30)	0.105	87	-0.11 (-0.32, 0.08)	0.251
Adjusted for age, RF <sup>b</sup>	155	0.07 (-0.02, 0.16)	0.112	89	0.02 (-0.07, 0.11)	0.687	152	0.10 (-0.05, 0.26)	0.199	87	-0.18 (-0.36, 0.00)	0.053
<b>Mean fIMT<sup>a</sup> Crude</b>	149	0.34 (0.15, 0.53)	<0.001	89	0.17 (-0.03, 0.26)	0.107	151	0.29 (-0.03, 0.60)	0.074	87	0.63 (0.30, 0.97)	<0.001
Adjusted for sex	149	0.35 (0.17, 0.54)	<0.001	89	0.13 (-0.00, 0.28)	0.057	151	0.31 (-0.00, 0.61)	0.051	87	0.67 (0.33, 0.99)	<0.001
Adjusted for age	149	0.25 (0.06, 0.44)	0.010	89	0.07 (-0.07, 0.21)	0.338	151	0.22 (-0.09, 0.52)	0.162	87	0.53 (0.20, 0.87)	0.002
Adjusted for RF <sup>b</sup>	149	0.26 (0.09, 0.43)	0.002	89	0.13 (-0.01, 0.26)	0.063	151	0.27 (-0.01, 0.56)	0.062	87	0.36 (0.11, 0.61)	0.005
Adjusted for age, RF <sup>b</sup>	154	0.17 (0.02, 0.32)	0.031	89	0.09 (-0.05, 0.23)	0.201	151	0.23 (-0.05, 0.52)	0.108	87	0.31 (0.07, 0.56)	0.013
Dichotomous variables	n	OR (95% CI)	P value	n	OR (95% CI)	P value	n	OR (95% CI)	P value	n	OR (95% CI)	P value
<b>Ischaemic ECG<sup>c</sup> Crude</b>	152	1.12 (0.22, 5.82)	0.892	90	0.45 (0.50, 4.01)	0.471	143	-	-	82	-	-
Adjusted for sex	152	1.18 (0.23, 6.20)	0.843	90	0.41 (0.05, 3.78)	0.435	143	-	-	82	-	-
Adjusted for age	152	0.79 (0.14, 4.36)	0.782	90	0.34 (0.04, 3.24)	0.348	143	-	-	82	-	-
Adjusted for RF <sup>b</sup>	147	1.43 (0.23, 8.99)	0.702	90	0.78 (0.07, 8.87)	0.849	54	-	-	41	-	-
Adjusted for age, RF <sup>b</sup>	147	0.70 (0.10, 5.14)	0.727	90	0.51 (0.04, 6.26)	0.598	54	-	-	41	-	-
<b>AAP<sup>c</sup> Crude</b>	140	1.93 (0.73, 5.08)	0.185	83	2.02(0.49, 8.26)	0.328	142	1.16 (0.23, 5.78)	0.853	82	1.49 (0.16, 14.22)	0.730
Adjusted for sex	140	2.01 (0.76, 5.34)	0.162	83	2.13 (0.51, 8.87)	0.299	142	1.20 (0.24, 6.01)	0.821	82	1.63 (0.17, 15.92)	0.676
Adjusted for age	140	0.87 (0.30, 2.53)	0.795	83	1.08 (0.23, 5.00)	0.919	142	0.67 (0.13, 3.61)	0.645	82	0.66 (0.06, 6.73)	0.726
Adjusted for RF <sup>b</sup>	140	1.38 (0.48, 3.98)	0.554	83	2.17 (0.47, 10.01)	0.319	142	0.87 (0.14, 5.45)	0.880	82	0.91 (0.06, 13.72)	0.947
Adjusted for age, RF <sup>b</sup>	140	0.63 (0.19, 2.05)	0.440	83	1.18 (0.23, 6.02)	0.843	142	0.46 (0.07, 3.25)	0.438	82	0.50 (0.03, 7.67)	0.622
<b>AAI <math>\leq 0.9</math><sup>c</sup> Crude</b>	113	-	-	-	-	-	140	-	-	-	-	-
Adjusted for sex	52	-	-	-	-	-	62	-	-	-	-	-
Adjusted for age	113	-	-	-	-	-	140	-	-	-	-	-
Adjusted for RF <sup>b</sup>	10	-	-	-	-	-	12	-	-	-	-	-
Adjusted for age, RF <sup>b</sup>	-	-	-	-	-	-	-	-	-	-	-	-

Abbreviations: *n* = number of observations; CI = confidence interval; cIMT = carotid intima-media thickness; RF = risk factors; fIMT = femoral intima-media thickness; ECG = electrocardiogram; AAP = abdominal aorta plaques; AAI = ankle-arm index.

<sup>a</sup>Coefficient using linear regression; <sup>b</sup>RF are hypertension, diabetes mellitus, dyslipidaemia, smoking; <sup>c</sup>Odds ratio using multiple regression.