

## Identification of dietary components in association with abdominal aortic calcification

Wenxiang Li, †<sup>a</sup> Guangyi Huang, †<sup>a</sup> Ningning Tang, †<sup>a</sup> Peng Lu, †<sup>a</sup> Li Jiang, †<sup>a</sup> Jian Lv,<sup>a</sup>  
Yuanjun Qin,<sup>a</sup> Yunru Lin,<sup>a</sup> Fan Xu,<sup>\*a</sup> Daizai Lei,<sup>\*a</sup>

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**Table S1.** Distribution of dietary macro- and micronutrient components in study.

Characteristics	P10	P25	P50	P75	P90	GM (GSD)
Vit A (mcg)	221.0	356.0	546.5	807.5	1154.0	520.14±1.96
Vit B1 (mg)	0.832	1.066	1.414	1.808	2.336	1.39±1.51
Vit B2 (mg)	1.120	1.446	1.927	2.488	3.116	1.88±1.51
Niacin (mg)	13.68	17.61	22.47	29.03	34.90	22.24±1.48
Vit B6 (mg)	1.05	1.40	1.85	2.46	3.17	1.83±1.57
Folate (mcg)	191.5	262.0	351.0	456.0	605.0	342.03±1.57
Vit B12 (mcg)	1.62	2.57	4.12	6.63	10.13	4.06±2.11
Vit C (mg)	15.90	31.40	63.30	113.15	178.45	56.03±2.73
Vit D (mcg)	0.85	1.70	3.40	5.90	9.80	3.03±2.71
Vit E (mg)	3.97	5.50	7.60	10.90	17.62	7.88±1.84
Vit K (mcg)	35.35	54.60	91.55	148.15	240.80	91.33±2.19
Ca (mg)	433	586	831	1114	1372	800.95±1.62
Cu (mg)	0.65	0.87	1.09	1.40	1.81	1.10±1.50
Mg (mg)	171.5	215.0	275.5	350.0	434.0	273.83±1.46
P (mg)	754.0	987.5	1260.0	1561.0	1851.5	1220.97±1.44
K (mg)	1572.0	1985.5	2558.0	3161.5	3770.0	2463.9±1.43
Na (mg)	1895.5	2382.5	3085.5	3919.5	4845.0	3034.49±1.45
Se (mcg)	59.90	78.70	105.60	133.70	162.75	102.02±1.51
Fe (mg)	7.16	9.64	12.67	16.71	21.46	12.55±1.56
Zn (mg)	5.51	7.25	9.87	12.68	16.31	9.55±1.55
Choline (mg)	104.5	154.5	247.5	363.5	464.5	293.71±1.55
α-carotene (mcg)	7.5	31.5	118.0	541.0	1235.5	94.00±12.27
β-carotene (mcg)	255.0	518.0	1399.5	2964.0	6466.5	1290.78±3.54
β-cryptoxanthin (mcg)	6.0	15.5	48.0	99.0	222.5	37.11±5.40
Lycopene (mcg)	4	665	2402	6048	13621	694.23±63.18
Carotenoid (mcg)	291.0	554.0	1020.5	1970.0	3627.5	1026.39±2.84
Cholesterol (mg)	104.5	154.5	247.5	363.5	464.5	231.16±1.89
Caffeine (mg)	5	48	140	246	367	62.88±13.85
Theobromine (mg)	0.0	0.1	13.0	44.5	96.5	1.05±127.36
Total Fiber (g)	8.15	11.35	15.90	20.65	26.50	15.12±1.63
Total Sugars (g)	40.07	58.25	85.12	122.31	163.61	82.29±1.73
Total Protein (g)	45.72	58.24	74.68	93.82	114.17	73.05±1.46
SFA (g)	11.30	15.93	22.37	29.93	37.62	21.18±1.65
MUFA (g)	13.05	18.33	24.42	32.85	40.10	23.54±1.59
PUFA (g)	8.34	11.74	16.07	22.49	27.38	15.54±1.64

The dietary intakes were weighted estimates of US population characteristics, taking into account the complex sampling design.

Abbreviations: P, percentile. GM, geometric mean. GSD, geometric standard deviation. AAC, abdominal aortic calcification. Vit, vitamin. Ca, calcium. Cu, copper. Mg, magnesium. P, phosphorus. K, potassium. Na, sodium. Se, selenium. Fe, iron. Zn, zinc. SFA, total saturated fatty acids. MUFA, total monounsaturated fatty acids. PUFA,

total polyunsaturated fatty acids.

**Table S2.** The coefficients for LASSO regression analysis.

Variables	Coefficients( $\beta$ )
Vit A	-0.044720815
Vit B1	0
Vit B2	0
Niacin	0
Vit B6	0
Folate	0
Vit B12	0
Vit C	0
Vit D	0
Vit E	0
Vit K	0
Ca	0
Cu	0
Mg	0
P	0
K	0
Na	0
Se	0
Fe	0
Zn	0
Choline	0
$\alpha$ -carotene	0
$\beta$ -carotene	0
$\beta$ -cryptoxanthin	-0.008146196
Lycopene	0.006809721
Carotenoid	-0.017213644
Cholesterol	0
Caffeine	0.013958969
Theobromine	0.009085175
Total Fiber	-0.085092613
Total Protein	-0.109163802
Total Sugars	0
SFA	0.054450753
MUFA	0
PUFA	0.137940354
Age	0.061852234
Gender	0
Mexican American	-0.017991682
Other Hispanic	-0.021359036
Non-Hispanic Black	-0.22313523
Other race	-0.002473723

Education level	0
Ratio of family income to poverty	0
BMI	-0.03018352
HDL	-0.373335607
Smoking status	0.204752173
Serum total cholesterol	0
Past-year alcohol drinking	0.018462384
Hypertension	0.411525408
Total energy intake	0
Physical activity	-0.042366777
Serum total calcium	0
Serum phosphorus	0
Serum Vitamin D	0
Diabetes	0.151166581

'0' indicates variables that were not selected as the significant influencer of the outcomes.

Abbreviations: BMI, body mass index. HDL, high-density lipoprotein. Vit, vitamin. Ca, calcium. Cu, copper. Mg, magnesium. P, phosphorus. K, potassium. Na, sodium. Se, selenium. Fe, iron. Zn, zinc. SFA, total saturated fatty acids. MUFA, total monounsaturated fatty acids. PUFA, total polyunsaturated fatty acids.

**Table S3.** Assessment of multicollinearity among model variables using variance inflation factors (VIF).

Variables	VIF
Total Protein	2.933
SFA	3.614
PUFA	2.639
Total Fiber	2.524
Vit A	1.861
$\beta$ -cryptoxanthin	1.370
Lycopene	1.175
Carotenoid	1.789
Theobromine	1.221
Caffeine	1.251
Gender	1.635
Mexican American	1.346
Other Hispanic	1.175
Non-Hispanic Black	1.401
Other race	1.299
Education level	1.466
Family income	1.519
Smoking status	1.576
Alcohol drinking	1.614
Physical activity	1.130
Age	1.485
BMI	1.356
HDL	1.467
Serum total cholesterol	1.186
Hypertension	1.237
Total energy intake	7.525
Diabetes	1.212
Serum total calcium	1.105
Serum phosphorus	1.113
Serum Vitamin D	1.298

Abbreviations: SFA, total saturated fatty acids. PUFA, total polyunsaturated fatty acids. Vit, vitamin. BMI, body mass index. HDL, high-density lipoprotein.

**Table S4.** Association between dietary components that were not selected by LASSO model and risk of AAC.

	Dietary intakes, OR (95%CI)			
	Q1	Q2	Q3	Q4
Vit B1 (mg)	<1.066 ref	1.066-1.414 0.85(0.61, 1.18)	1.415-1.808 0.98(0.69, 1.41)	>1.808 0.72(0.48, 1.09)
Vit B2 (mg)	<1.446 ref	1.446-1.927 0.96(0.69, 1.34)	1.928-2.488 0.75(0.52, 1.08)	>2.488 0.67(0.44, 1.01)
Niacin (mg)	<17.61 ref	17.61-22.47 1.49(1.07, 2.08)	22.48-29.03 0.99(0.69, 1.44)	>29.03 0.90(0.59, 1.37)
Vit B6 (mg)	<1.40 ref	1.40-1.85 0.83(0.60, 1.13)	1.86-2.46 0.79(0.56, 1.11)	>2.46 0.67(0.46, 0.98)
Folate (mcg)	<262.0 ref	262.0-351.0 1.22(0.88, 1.68)	351.1-456.0 0.80(0.56, 1.14)	>456.0 0.77(0.53, 1.14)
Vit B12 (mcg)	<2.57 ref	2.57-4.12 1.05(0.77, 1.45)	4.13-6.63 0.83(0.59, 1.15)	>6.63 0.79(0.56, 1.13)
Vit C (mg)	<31.40 ref	31.40-63.30 1.28(0.93, 1.75)	63.31-113.15 0.91(0.65, 1.26)	>113.15 0.95(0.68, 1.33)
Vit D (mcg)	<1.70 ref	1.70-3.40 0.94(0.69, 1.29)	3.41-5.90 0.85(0.62, 1.18)	>5.90 0.84(0.60, 1.17)
Vit E (mg)	<5.50 ref	5.50-7.60 1.05(0.76, 1.46)	7.61-10.90 1.10(0.77, 1.59)	>10.90 0.93(0.63, 1.39)
Vit K (mcg)	<54.60 ref	54.60-91.55 1.36(0.98, 1.89)	91.56-148.15 1.12(0.79, 1.57)	>148.15 1.13(0.80, 1.62)
Ca (mg)	<586 ref	586-831 0.86(0.62, 1.18)	832-1114 0.74(0.52, 1.05)	>1114 0.74(0.50, 1.08)
Cu (mg)	<0.87 ref	0.87-1.09 0.88(0.63, 1.23)	1.10-1.40 0.70(0.48, 1.02)	>1.40 0.62(0.41, 0.94)
Mg (mg)	<215.0 ref	215.0-275.5 1.00(0.71, 1.40)	275.6-350.0 0.83(0.57, 1.21)	>350.0 0.68(0.44, 1.04)
P (mg)	<987.5 ref	987.5-1260.0 0.76(0.53, 1.09)	1260.1-1561.0 0.66(0.44, 1.01)	>1561.0 0.65(0.39, 1.07)
K (mg)	<1985.5 ref	1985.5-2558.0 0.98(0.71, 1.38)	2558.1-3161.5 0.82 (0.57, 1.19)	>3161.5 0.86(0.57, 1.30)
Na (mg)	<2382.5 ref	2382.5-3085.5 0.94(0.67, 1.32)	3085.6-3919.5 0.85(0.58, 1.25)	>3919.5 0.96(0.61, 1.51)
Se (mcg)	<78.70 ref	78.70-105.60 1.01(0.73, 1.41)	105.61-133.70 0.82(0.57, 1.19)	>133.70 0.89(0.58, 1.35)
Fe (mg)	<9.64 ref	9.64-12.67 0.92(0.66, 1.28)	12.68-16.71 0.75(0.52, 1.08)	>16.71 0.70(0.47, 1.05)
Zn (mg)	<7.25 ref	7.25-9.87 0.84(0.59, 1.18)	9.88-12.68 0.75(0.51, 1.08)	>12.68 0.73(0.48, 1.11)
Choline (mg)	<154.5 ref	154.5-247.5 0.86(0.62, 1.20)	247.6-363.5 0.75(0.52, 1.08)	>363.5 0.77(0.51, 1.17)

$\alpha$ -carotene (mcg)	<31.5	31.5-118.0	118.1-541.0	>541.0
	ref	1.11(0.81, 1.52)	1.06(0.77, 1.46)	1.09(0.79, 1.50)
$\beta$ -carotene (mcg)	<518.0	518.0-1399.5	1399.6-2964.0	>2964.0
	ref	0.92(0.67, 1.26)	1.12(0.82, 1.55)	0.80(0.58, 1.11)
Cholesterol (mg)	<154.5	154.5-247.5	247.6-363.5	>363.5
	ref	0.82(0.59, 1.12)	0.91(0.65, 1.28)	0.76(0.53, 1.09)
Total Sugars (g)	<58.25	58.25-85.12	85.13-122.31	>122.31
	ref	0.88(0.64, 1.21)	0.78(0.56, 1.10)	0.78(0.53, 1.15)
MUFA (g)	<18.33	18.33-24.42	24.43-32.85	>32.85
	ref	1.19(0.85, 1.69)	1.11(0.74, 1.67)	1.42(0.88, 2.30)
Total Fat (g)	<54.14	54.14-70.36	70.37-94.80	>94.80
	ref	1.31(0.93, 1.83)	1.35(0.89, 2.04)	1.99(1.21, 3.33)

The Logistic regression model was adjusted for age, gender, race, BMI, education levels, ratio of family income to poverty, smoking status, alcohol consumption, physical activity, hypertension, diabetes, serum total cholesterol, serum HDL, serum calcium, serum phosphorus, serum vitamin D and total energy intake

Abbreviations: Q, quartile. OR, odds ratio. CI, confidence interval. AAC, abdominal aortic calcification. Vit, vitamin. Ca, calcium. Cu, copper. Mg, magnesium. P, phosphorus. K, potassium. Na, sodium. Se, selenium. Fe, iron. Zn, zinc. MUFA, total monounsaturated fatty acids.