

Supplementary materials

Supplementary 1

Baseline characteristics of participants with vitamin D deficiency and insufficiency

Supplementary 2

Baseline characteristics of participants with different serum 25(OH)D level

Supplementary 3.

Correlation coefficients between vitamin D and other variables in the total population

Supplementary 4.

Univariate regression analysis of vitamin D and blood vessel properties in vitamin D sufficiency



Supplementary Table 1 Baseline characteristics of participants with vitamin D deficiency and insufficiency

Characteristics	Total N = 155	Male N = 86	Female N = 69	<i>P</i> value
Age (years)	83±10	86±8	79±12	<0.001
BMI (kg/m ²)	24.5±3.4	24.5±3.2	24.6±3.7	0.823
Fasting glucose (mmol/L)	9.37±3.9	9.1±3.7	9.9±4.3	0.286
Total cholesterol (mmol/L)	4.36±1.1	4.0±0.9	4.8±1.1	<0.001
HDL-c (mmol/L)	1.17±0.33	1.1±0.3	1.3±0.3	<0.001
LDL-c (mmol/L)	2.35±0.79	2.16±0.72	2.6±0.81	0.001
Triglyceride (mmol/L)	1.43±0.81	1.26±0.50	1.65±1.05	0.002
Vitamin D (ng/mL)	16.7±6.5	16.3±6.4	17.1±6.8	0.441
Creatinine (umol/L)	75.9±27.7	88.2±29.3	60.3±14.9	<0.001
Calcium (mmol/L)	2.29±0.14	2.30±0.15	2.27±0.13	0.276
Left SBP (mmHg)	137±20	137±22	138±19	0.836
Left DBP (mmHg)	76±11	75±11	76±12	0.890
Right SBP (mmHg)	139±20	139±21	139±18	0.824
Right DBP (mmHg)	77±12	77±12	76±12	0.648
Left baPWV (cm/s)	1930±437	1920±401	1942±481	0.760
Right baPWV (cm/s)	1892±410	1885±381	1900±446	0.812
Left ABI	1.08±0.17	1.08±0.14	1.08±0.19	0.880
Right ABI	1.09±0.17	1.11±0.17	1.06±0.16	0.05
Season (Spring/Summer/Autumn/Winter)	24/100/21/10	15/53/11/7	9/47/10/3	0.645

Abbreviation: BMI: body mass index; HDL-C: high density lipoprotein cholesterol; LDL-C: low density lipoprotein cholesterol; SBP: systolic blood pressure; DBP: diastolic blood pressure; baPWV: brachial-ankle pulse wave velocity; ABI: ankle brachial index.

Supplementary Table 2. Baseline characteristics of participants with different serum 25(OH)D level

Characteristics	25(OH)D sufficiency (N = 20)	25(OH)D deficiency and insufficiency (N = 155)	P-value
Age (year)	74±10.6	83±10	0.001
BMI (kg/m ²)	24.9±3.6	24.5±3.4	0.653
Fasting glucose (mmol/L)	10.1±4.6	9.4±3.9	0.727
Total cholesterol (mmol/L)	4.9±1.3	4.4±1.1	0.111
HDL-c (mmol/L)	1.2±0.3	1.2±0.3	0.435
LDL-c (mmol/L)	2.65±0.9	2.4±0.8	0.182
Triglyceride (mmol/L)	1.5±0.7	1.4±0.8	0.511
Vitamin D (ng/mL)	37.1±6.1	16.7±6.5	<0.001
Creatinine (umol/L)	66.3±25.1	75.9±27.7	0.125
Calcium (mmol/L)	2.4±0.11	2.3±0.14	0.002
Left SBP (mmHg)	140±17	137±21	0.459
Left DBP (mmHg)	78±10	76±11	0.369
Right SBP (mmHg)	143±17	139±20	0.346
Right DBP(mmHg)	78±9	77±12	0.166
Left baPWV (cm/s)	1874±285	1930±437	0.589
Right baPWV(cm/s)	1872±335	1891±410	0.841
Left ABI	1.05±0.18	1.08±0.17	0.573
Right ABI	1.09±0.13	1.09±0.17	0.977
Season (Spring/Summer/Autumn/Winter)	2/12/2/4	24/100/21/10	0.199

Abbreviation: BMI: body mass index; HDL-C: high density lipoprotein cholesterol; LDL-C: low density lipoprotein cholesterol; SBP: systolic blood pressure; DBP: diastolic blood pressure; baPWV: brachial-ankle pulse wave velocity; ABI: ankle brachial index.

Supplementary Table 3. Correlation coefficients between vitamin D and other variables in the total population

Vitamin D	Total		Male (n=91)		Female (n=84)	
	r	P value	r	P value	r	P value
BMI (kg/m ²)	0.029	0.703	-0.007	0.946	0.053	0.639
Fasting Glucose (mmol/L)	0.137	0.097	0.115	0.293	0.135	0.297
Total Cholesterol (mmol/L)	0.207	0.006	0.239	0.022	0.098	0.384
HDL-c (mmol/L)	0.081	0.292	0.231	0.028	-0.118	0.296
LDL-c (mmol/L)	0.196	0.010	0.217	0.040	0.118	0.294
Triglycerides (mmol/L)	0.097	0.204	0.031	0.771	0.079	0.485
Calcium (mmol/L)	0.288	<0.001	0.268	0.015	0.341	0.007
Creatinine (umol/L)	-0.192	0.011	-0.135	0.203	-0.129	0.247
Left SBP (mmHg)	0.013	0.865	-0.097	0.365	0.108	0.332
Left DBP (mmHg)	0.044	0.567	-0.062	0.559	0.131	0.239
Right SBP (mmHg)	0.016	0.837	-0.108	0.308	0.126	0.256
Right DBP (mmHg)	0.056	0.465	-0.052	0.625	0.164	0.138
RPP (mmHg)	-0.027	0.725	-0.117	0.268	0.035	0.751
LPP (mmHg)	-0.018	0.818	-0.097	0.363	0.046	0.680
LABI	0.125	0.099	0.051	0.632	0.180	0.103
RABI	0.169	0.025	0.076	0.474	0.317	0.004
LbaPWV (cm/s)	-0.136	0.073	-0.134	0.206	-0.141	0.204
Rbapwv (cm/s)	-0.120	0.113	-0.107	0.311	-0.132	0.233

Abbreviation: BMI: body mass index; HDL-C: high density lipoprotein cholesterol; LDL-C: low density lipoprotein cholesterol; SBP: systolic blood pressure; DBP: diastolic blood pressure; baPWV: brachial-ankle pulse wave velocity; ABI: ankle-brachial index; (L, left, R, right)

Supplementary Table 4. Univariate regression analysis of vitamin D and blood vessel properties in vitamin D sufficiency(N= 20)

Characteristic	Left ABI		Right ABI		Left baPWV (cm/s)		Right baPWV (cm/s)	
	Standardized beta (Se)	<i>P</i> -value	Standardized beta (Se)	<i>P</i> -value	Standardized beta (Se)	<i>P</i> -value	Standardized beta (Se)	<i>P</i> -value
Vitamin D (ng/mL)	0.508(0.369)	0.186	0.417(0.254)	0.119	-0.346(0.225)	0.142	-0.439(0.277)	0.131

Abbreviation: baPWV: brachial-ankle pulse wave velocity; ABI:ankle brachial index.

