

Supplementary data to:

**“Hepatic steatosis and cardiovascular disease outcomes: An analysis
of the Framingham Heart Study”**

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1. Supplementary Analysis Methods

For our initial descriptive data, we performed univariate stratification by sex with results shown in **Supplementary Table 1**. To evaluate whether or not excluding CHF and PAD from our definition of clinical CVD changed outcomes, we performed a sensitivity analyses excluding CHF and PAD. In this analysis, we performed multivariate regression in an identical manner to our methodology in the main text of the manuscript with our primary outcome of clinical CVD now excluding CHF and PAD (renamed “narrow CVD”). The results of these sensitivity analyses did not change substantially when compared to the original analysis (see **Supplementary Table 2**).

2. Supplementary Tables

Supplementary Table 1: Sex-Stratified Participant Characteristics

Category	Men		Women	
	CVD (n=111)	No CVD (n=1382)	CVD (n=66)	No CVD (n=1455)
Age at Exam (years)	61.0 (10.2)	48.9 (10.3)	64.5 (9.8)	51.8 (9.6)
Menopause (%)**	0	0	90.9	49.3
Hormone replacement therapy (%)**	0	0	36.4	23.6
Current cigarette use (%)	17.1	13.5	10.6	12.4
Mean drinks per week (SD)	8.3 (13.3)	7.5 (9.1)	2.7 (6.0)	3.4 (4.8)
Glucose-related				
Fasting glucose (mg/dL)	116.3 (48.9)	101.0 (20.3)	104.9 (27.9)	95.0 (16.7)
Diabetes mellitus (%)	20.7	5.8	21.2	4.5
Blood pressure-related				
Hypertensive drug use (%)	55.9	15.8	51.5	17.0
Systolic BP (mmHg)	126.7 (18.2)	122.9 (14.4)	130.6 (18.3)	119.7 (17.7)
Diastolic BP (mmHg)	73.2 (9.8)	78.1 (8.9)	73.5 (10.3)	73.4 (9.1)
Lipid-related				
Triglycerides (mg/dL)	175.7 (149.8)	139.0 (106)	162.0 (103.7)	110.7 (65.7)
HDL-cholesterol (mg/dL)	42.0 (11.9)	46.5 (12.6)	56.5 (17.7)	61.8 (16.7)
Total cholesterol (mg/dL)	179.5 (39.4)	195.75 (33.8)	201.3 (38.5)	197.9 (36.2)
Fat-related				
BMI (kg/m ²)	29.3 (5.2)	28.0 (4.3)	27.4 (5.7)	26.7 (5.4)
Waist Circ (mm)	1042.2 (116.5)	996.7 (108.6)	991.0 (128.1)	954.9 (954.9)
SAT (cm ³)	2670.7 (1073.6)	2512.6 (1135.3)	2938.6 (1279.6)	3053.1 (1434.8)
VAT (cm ³)	2873.6 (1314.5)	2130.2 (2130.2)	1784.5 (746)	1311.0 (809.6)
Metabolic syndrome (%)	63.1	33.2	56.1	25.1
Outcomes[^]				
AAC (%) ^{&}	55.9	22.9	57.6	24.7
CAC (%) ^{&}	54.0	18.4	36.4	17.0
Predictor				
Liver phantom ratio [#]	0.34 (0.06)	0.35 (0.06)	0.36 (0.05)	0.36 (0.04)

Abbreviations: BP=blood pressure, HDL=high density lipoprotein, BMI=body mass index, SAT=subcutaneous adipose tissue, VAT=visceral adipose tissue, CVD=cardiovascular disease, NAFLD=non-alcoholic fatty liver disease.

*Data are presented as mean (standard deviation) or % (number of individuals).

**Data shown for women only: n=1521.

[^] P < 0.001 for AAC and CAC in men versus women

[&] Defined as age- and sex-specific values in the 90th percentile for healthy participants

[#] NAFLD defined as liver-phantom ratio of 0.33 or less

Supplementary Table 2. Comparison between original analysis, narrow CVD definition (without CHF and PAD), and clinically-relevant covariates and association between hepatic steatosis.

Original Covariates	Original CVD Analysis		Narrow CVD* with Original Covariates	
	OR	Pvalue	OR	Pvalue
Age+sex+age ²	1.14 (0.99-1.32)	0.072	1.14 (0.98-1.33)	0.083
Covariates	1.14 (0.99-1.32)	0.074	1.14 (0.98-1.33)	0.082
Covariates +BMI	1.11 (0.95-1.29)	0.178	1.14 (0.97-1.33)	0.119
Covariates + diabetes	1.10 (0.95-1.27)	0.218	1.11 (0.95-1.30)	0.185
Covariates + HDL	1.10 (0.95-1.27)	0.222	1.10 (0.94-1.29)	0.216
Covariates + HTN	1.07 (0.92-1.24)	0.388	1.07 (0.92-1.25)	0.392
Covariates + metabolic syndrome	1.05 (0.90-1.22)	0.532	1.05 (0.90-1.23)	0.540
Covariates + SAT	1.15 (0.99-1.33)	0.074	1.16 (0.99-1.35)	0.070
Covariates + VAT	1.04 (0.89-1.22)	0.624	1.05 (0.89-1.25)	0.554
Covariates + triglycerides	1.08 (0.95-1.25)	0.347	1.08 (0.92-1.26)	0.348
Covariates + waist circumference	1.10 (0.95-1.29)	0.211	1.12 (0.96-1.32)	0.159
Clinical Covariate Profile ^{&}	1.06 (0.90-1.25)	0.494	1.09 (0.92-1.30)	0.321

*"Narrow CVD" was defined as nonfatal MI, stroke, and TIA and excluded CHF and PAD from the original definition.

[&]Composite of the following: age, age², sex, alcohol use, smoking, menopause, HRT use, diabetes, BMI, HDL, total cholesterol, HTN, and presence of lipid-lowering medications.