Supplemental Material

Table S1. Sex Hormone Levels by Age at Menarche Among Post-Menopausal women.

	≤10 years (n=55)	11 years (n=99)	12 years (n=152)	13 years (n=161)	14 years (n=82)	≥15 years (n=99)	Overall (n=648)	P-Value
Testosterone, median, (IQR) ng/dl, n=403	24.6 (15.9, 33.4)	23.7 (17.7, 32.1)	25.4 (17, 33.7)	22.15 (15.1, 30.1)	24.5 (18.8, 32)	25.2 (17.9, 34.9)	24.0 (17.1, 32.2)	0.52
Estradiol, median, (IQR) pg/ml, n=453	18 (11, 34)	18 (11, 39)	16 (8, 42)	16 (9.5, 28.5)	15 (9, 36)	15 (10, 33)	16 (10, 33)	0.89
Testosterone: Estradiol Ratio, median (IQR), n=400	1.18 (0.7, 1.92)	1.25 (0.62, 2.18)	1.64 (0.69, 2.94)	1.51 (0.7, 2.57)	1.64 (0.54, 2.65)	1.57 (0.85, 2.64)	1.5 (0.7, 2.64)	0.40
FSH*, median, (IQR) MLU/ml, n=453	30.4 (9.7, 52.2)	33.2 (18.6, 50.9)	37.9 (20.7, 54.6)	40.95 (22.35, 57.65)	40.9 (23.4, 60.15)	41.1 (21.4, 57.6)	37.2 (21.2, 55.7)	0.57
LH†, median (IQR) MLU/ml, n=452	12 (3.6, 18.7)	12.8 (6.5, 19.1)	14.35 (8.2, 22.5)	15.1 (8.4, 23.8)	14 (9.9, 19.15)	17.1 (9.2, 21.1)	14.5 (8.4, 21.55)	0.40
Sex Hormone Binding Globulin (SHBG), median (IQR), n=403	38.1 (28.2, 65.4)	46.6 (23.55, 70.85)	51.3 (34.5, 90.8)	45.5 (31.5, 82.6)	49.5 (34.9, 84.7)	40.9 (25.8, 76)	46 (29.5, 82.6)	0.14
Androstenedione, median (IQR) pg/ml, n=403	560 (407, 802)	487.5 (339.5, 777.5)	456 (315, 716)	479 (302, 699	555 (309, 677)	579.5 (416, 861)	519 (327, 732)	0.37
DHEA-S‡, median (IQR) μg/dl, n=382	46.2 (29, 65.4)	38.9 (22.35, 69.8)	36.85 (20.6, 63.25)	34.8 (15.6, 61.3)	36.4 (20.6, 65.5)	36.9 (15.2, 81.7)	37.55 (19.3, 65.5)	0.59

*Follicle stimulating hormone †Luteinizing hormone ‡Dehydroepiandrosterone sulfate

Table S2. Models with TET and sTET for time to CVD event.

HR's for time to CVD event	HR (95% CI) for model with TET	HR (95% CI) for model with sTET	HR (95% CI) for model without TET or sTET
Age at menarche ≤10 vs 12	4.21 (1.90, 9.30)	4.03 (1.83, 8.87)	4.0 (1.84, 8.69)
Age at menarche 11 vs 12	2.27 (1.09, 4.75)	2.24 (1.07, 4.67)	2.14 (1.04, 4.40)
Age at menarche 13 vs 12	1.95 (0.97, 3.92)	1.88 (0.93, 3.79)	1.80 (0.91, 3.55)
Age at menarche 14 vs 12	2.74 (1.21, 6.20)	2.69 (1.18, 6.09)	2.25 (1.02, 4.97)
Age at menarche ≥15 vs 12	2.52 (1.14, 5.57)	2.32 (1.04, 5.18)	2.53 (1.18, 5.42)
age	1.03 (1.003, 1.05)	1.03 (1.01, 1.05)	1.02 (1.003, 1.04)
BMI	0.98 (0.95, 1.02)	0.98 (0.95, 1.02)	0.98 (0.94, 1.01)
Diabetes No vs Yes	0.38 (0.24, 0.61)	0.39 (0.25, 0.63)	0.41 (0.26, 0.64)
Ever smoker No vs Yes	0.45 (0.28, 0.70)	0.42 (0.27, 0.67)	0.49 (0.32, 0.76)
Dyslipidemia No vs Yes	0.63 (0.39, 1.02)	0.61 (0.37, 0.98)	0.62 (0.39, 0.99)
Hypertension No vs Yes	0.57 (0.35, 0.94)	0.56 (0.34, 0.93)	0.57 (0.35, 0.93)
logSAA	1.26 (1.05, 1.52)	1.27 (1.05, 1.53)	1.26 (1.05, 1.52)
TET/sTET/-	0.99 (0.97, 1.02)	0.98 (0.95, 1.01)	-

Table S3. Models with TET and sTET for time to death.

HR's for time to death	HR (95% CI) for model with TET	HR (95% CI) for model with sTET	HR (95% CI) for model without TET
Age at menarche ≤10 vs 12	3.67 (1.38, 9.72)	3.41 (1.29, 9.05)	3.42 (1.32, 8.87)
Age at menarche 11 vs 12	2.62 (1.12, 6.11)	2.51 (1.08, 5.84)	2.42 (1.06, 5.49)
Age at menarche 13 vs 12	1.32 (0.58, 3.02)	1.26 (0.55, 2.89)	1.23 (0.55, 2.74)
Age at menarche 14 vs 12	2.54 (0.97, 6.66)	2.46 (0.94, 6.48)	2.30 (0.91, 5.82)
Age at menarche ≥15 vs 12	2.63 (1.11, 6.26)	2.43 (1.02, 5.83)	2.43 (1.05, 5.61)
age	1.03 (1.01, 1.06)	1.03 (1.01, 1.05)	1.03 (1.01, 1.05)
BMI	0.92 (0.88, 0.97)	0.92 (0.88, 0.97)	0.92 (0.88, 0.97)
Diabetes No vs Yes	0.35 (0.21, 0.59)	0.36 (0.22, 0.60)	0.36 (0.22, 0.59)
Ever smoker No vs Yes	0.67 (0.41, 1.09)	0.64 (0.39, 1.05)	0.68 (0.42, 1.11)
Dyslipidemia No vs Yes	0.64 (0.37, 1.11)	0.64 (0.37, 1.10)	0.65 (0.38, 1.11)
Hypertension No vs Yes	0.28 (0.15, 0.53)	0.28 (0.15, 0.53)	0.28 (0.15, 0.52)
logSAA	1.31 (1.05, 1.63)	1.31 (1.05, 1.64)	1.31 (1.05, 1.63)
TET/sTET/-	0.99 (0.96, 1.02)	0.98 (0.95, 1.01)	-

Figure S1. Adjusted relative hazard (with sTET) and 95% confidence interval (CI) of major adverse cardiac events (MACE) by age at menarche.
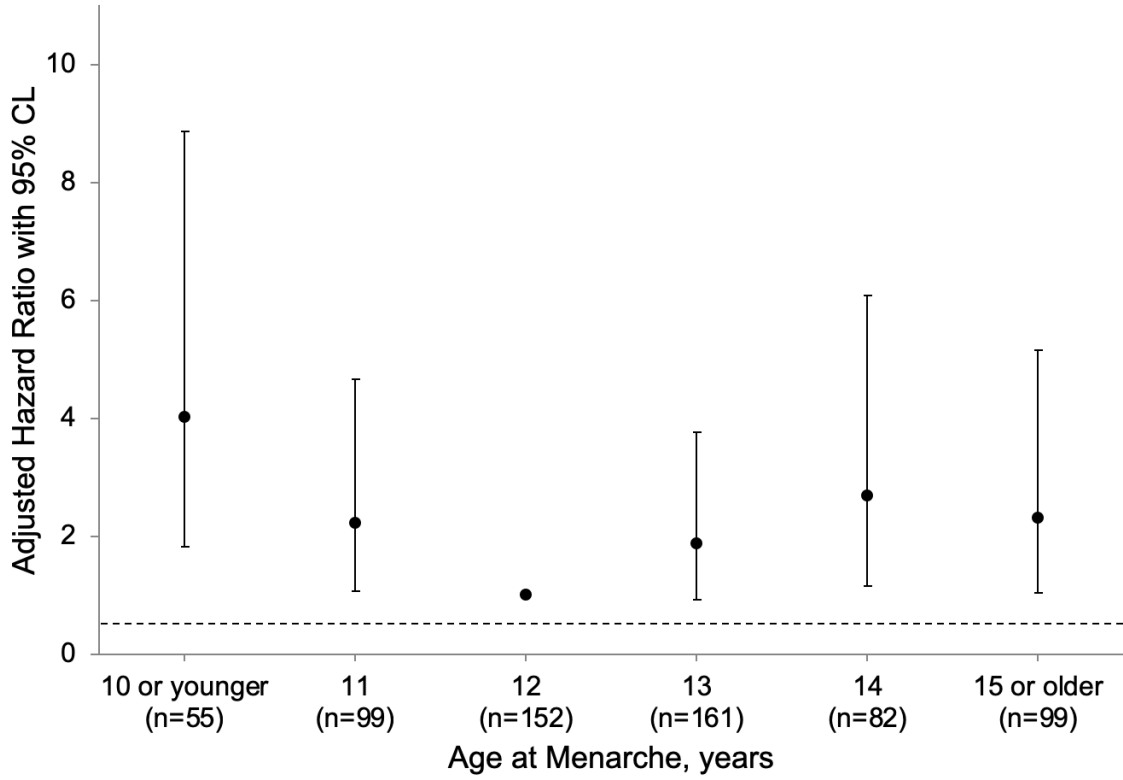
Figure S2. Adjusted relative hazard (with sTET) and 95% confidence interval (CI) of mortality by age at menarche.