

**Midlife blood pressure, plasma β amyloid and the risk for Alzheimer's disease:
the Honolulu Asia Aging Study**

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Table S1. Plasma A β sub-study sample compared to the rest of the HAAS exam 4 participants not included in A β sub-study

Characteristics*	HAAS subjects		p [†]
	Sub-sample	Rest	
	N=667	N=3067	
Age at exam 4, years	77.3 (4.5)	77.9 (4.7)	<0.001
Education, years	10.6 (3.2)	10.4 (3.2)	0.34
BMI at exam 4, kg/m ²	23.7 (2.9)	23.4 (3.2)	0.14
Blood pressure, mm Hg			
SBP	132.7 (16.7)	131.7 (17.1)	0.10
DBP	83.1 (9.5)	82.5 (9.8)	0.23
Pulse pressure	49.6 (11.0)	49.2 (11.2)	0.13
BP Trt use, exam 4, n (%)	285 (42.7)	1297 (42.3)	0.91
Lipid at exam 1, mg/dL			
Triglycerides	295.3 (269.4)	218.0 (152.2)	<0.001 [‡]
Cholesterol	236.3 (44.5)	214.3 (31.9)	<0.001

*: Mean (SD) unless otherwise indicated; [†]: adjusted for age at exam 3; [‡]: triglycerides are log-transformed for computation of the comparison. BMI = body mass index, SBP = systolic blood pressure, DBP = diastolic blood pressure, Trt = treatment.

Table S2. Subject characteristics by plasma A β 1-40 quartile: HAAS A β sub-study

Characteristics*	A β 1-40 quartiles (from low to high)				p [†]
	Q1 (n=166)	Q2 (n=167)	Q3 (n=167)	Q4 (n=167)	
Age at exam 3, years	58.0 (4.1)	58.8 (4.3)	58.9 (4.5)	59.9 (4.6)	0.0002
Age at event, years	82.1 (4.3)	83.2 (4.4)	83.2 (4.5)	83.5 (4.5)	0.93
A β draw to event, years	15.8 (3.2)	16.0 (3.0)	15.9 (3.1)	15.4 (3.2)	0.82
Education, years	10.8 (3.1)	10.5 (3.2)	10.7 (3.2)	10.6 (3.2)	0.74
Stroke, n (%)	8 (4.8)	9 (5.4)	11 (6.6)	17 (10.2)	0.04
Diabetes, n (%)	64 (38.6)	72 (43.1)	64 (38.3)	73 (43.7)	0.54
ApoE genotype, n (%)					
22 or 23	12 (7.2)	17 (10.2)	15 (9.0)	9 (5.4)	
33	112 (67.5)	110 (65.9)	113 (67.7)	120 (71.9)	0.53
34 or 44	32 (19.3)	31 (18.6)	30 (18.0)	32 (19.2)	
Missing value	10 (6.0)	9 (5.4)	9 (5.4)	6 (3.6)	
β Amyloid [‡]					
A β 1-40	4.93 (0.09)	5.10 (0.03)	5.20 (0.03)	5.41 (0.25)	<.0001
A β 1-42	2.96 (0.35)	3.03 (0.44)	3.14 (0.36)	3.42 (0.63)	<.0001
A β 1-40/1-42 ratio	1.69 (0.23)	1.73 (0.32)	1.68 (0.19)	1.62 (0.23)	0.002
Dementia, n (%)					
Total	20 (12.1)	19 (11.4)	18 (10.8)	20 (12.0)	0.32
All AD	16 (9.6)	14 (8.4)	11 (6.6)	12 (7.2)	0.08
Pure AD	14 (8.4)	12 (7.2)	6 (3.6)	6 (3.6)	0.01
VaD	4 (2.4)	5 (3.0)	7 (4.2)	8 (4.8)	0.40
Blood pressure, mmHg					
SBP	131.0 (15.6)	131.4 (15.9)	132.0 (17.4)	136.2 (17.4)	0.02
DBP	82.1 (9.0)	82.9 (9.3)	83.1 (10.3)	84.2 (9.2)	0.05
Pulse pressure	48.9 (10.0)	48.6 (10.3)	49.0 (10.7)	52.1 (12.4)	0.08
Lipid at exam 1, mg/dL					
Triglycerides	260.2 (214.5)	302.6 (266.2)	300.2 (250.9)	317.7 (330.6)	0.04 [§]
Cholesterol	228.7 (41.6)	239.8 (43.1)	235.0 (47.1)	241.4 (45.1)	0.03

*: Mean (SD) unless otherwise indicated; [†]: p for linear trend, adjusted for age at exam 3; [‡]: log-transformed; [§]: triglycerides are log-transformed for computation of linear trend. SBP = systolic blood pressure, DBP = diastolic blood pressure; event includes death, dementia or end of follow-up.

Table S3. Subject characteristics by plasma A β 1-42 quartile: HAAS A β sub-study

Characteristics*	A β 1-42 quartiles (from low to high)				p [†]
	Q1 (n=166)	Q2 (n=167)	Q3 (n=167)	Q4 (n=167)	
Age at exam 3, years	58.5 (4.1)	58.8 (4.7)	59.3 (4.8)	59.0 (4.1)	0.18
Age at event, years	82.4 (4.2)	83.0 (4.7)	83.4 (4.8)	83.0 (4.0)	0.59
A β draw to event, years	15.8 (3.1)	15.9 (3.1)	15.7 (3.2)	15.7 (3.0)	1.00
Education, years	10.2 (3.1)	11.0 (3.0)	10.7 (3.4)	10.6 (3.1)	0.29
Stroke, n (%)	8 (4.8)	9 (5.4)	12 (7.2)	16 (9.6)	0.06
Diabetes, n (%)	57 (34.3)	78 (46.7)	66 (39.5)	72 (43.1)	0.26
ApoE genotype, n (%)					
22 or 23	11 (6.6)	11 (6.6)	19 (11.4)	12 (7.2)	
33	109 (65.7)	113 (67.7)	116 (69.5)	117 (70.1)	0.28
34 or 44	39 (23.5)	33 (19.8)	25 (15.0)	28 (16.8)	
Missing value	7 (4.2)	10 (6.0)	7 (4.2)	10 (6.0)	
β Amyloid [‡]					
A β 1-40	5.07 (0.15)	5.14 (0.17)	5.15 (0.15)	5.29 (0.31)	<.0001
A β 1-42	2.61 (0.26)	3.00 (0.07)	3.23 (0.07)	3.71 (0.52)	<.0001
A β 1-40/1-42 ratio	1.97 (0.28)	1.71 (0.07)	1.59 (0.05)	1.44 (0.13)	<.0001
Dementia, n (%)					
Total	17 (10.2)	23 (13.8)	22 (13.2)	15 (9.0)	0.48
All AD	13 (7.8)	17 (10.2)	16 (9.6)	7 (4.2)	0.14
Pure AD	10 (6.0)	13 (7.8)	12 (7.2)	3 (1.8)	0.07
VaD	4 (2.4)	6 (3.6)	6 (3.6)	8 (4.8)	0.36
Blood pressure, mmHg					
SBP	129.4 (15.5)	132.9 (16.8)	133.2 (16.4)	135.2 (17.6)	0.004
DBP	81.6 (9.2)	82.8 (9.5)	83.2 (9.4)	84.5 (9.7)	0.01
Pulse pressure	47.8 (9.4)	50.1 (11.0)	49.9 (11.3)	50.7 (11.9)	0.05
Lipid at exam 1, mg/dL					
Triglycerides	311.3 (298.8)	306.2 (225.4)	274.3 (168.9)	289.8 (346.8)	0.16 [§]
Cholesterol	234.9 (44.8)	235.5 (43.2)	232.4 (45.5)	242.2 (44.2)	0.22

*: Mean (SD) unless otherwise indicated; [†]: p for linear trend, adjusted for age at exam 3; [‡]: log-transformed; [§]: triglycerides are log-transformed for computation of linear trend. SBP = systolic blood pressure, DBP = diastolic blood pressure. event includes death, dementia or end of follow-up.

Table S4. Subject characteristics by dementia sub-type: HAAS A β sub-study

Characteristics*	No dementia	All AD	p [†]	Pure AD	p [†]	VaD	p [†]
	(n=590)	(n=53)		(n=38)		(n=24)	
Age at exam 3, years	58.5 (4.2)	62.2 (4.8)	<0.001	61.8 (4.8)	<0.001	61.3 (4.5)	0.002
Age at event, years	83.0 (4.4)	83.2 (4.9)	<0.001	83.0 (5.3)	<0.001	80.7 (3.6)	<0.001
A β draw to event, years	16.2 (2.7)	12.6 (3.5)	<0.001	12.9 (3.6)	<0.001	11.0 (3.0)	<0.001
Education, years	10.8 (3.2)	9.5 (3.1)	0.08	9.6 (2.9)	0.12	10.0 (2.8)	0.48
Stroke, n (%)	36 (6.1)	0 (0.0)	0.06	0 (0.0)	0.12	9 (37.5)	<0.001
Diabetes, n (%)	239 (40.5)	21 (39.6)	0.84	15 (39.5)	0.83	13 (54.2)	0.19
ApoE genotype, n (%)							
22 or 23	49 (8.3)	2 (3.8)		2 (5.3)		2 (8.3)	
33	412 (69.8)	26 (49.1)		20 (52.6)		17 (70.8)	
34 or 44	99 (16.8)	21 (39.6)	0.002	13 (34.2)	0.05	5 (20.8)	0.99
Missing value	30 (5.1)	4 (7.6)		3 (7.9)		0 (0)	
β Amyloid [‡]							
A β 1-40	5.16 (0.23)	5.13 (0.16)	0.11	5.10 (0.16)	0.04	5.21 (0.16)	0.52
A β 1-42	3.14 (0.50)	3.05 (0.37)	0.14	3.00 (0.36)	0.08	3.22 (0.52)	0.48
A β 1-40/1-42 ratio	1.68 (0.25)	1.71 (0.27)	0.24	1.73 (0.29)	0.16	1.65 (0.24)	0.65
Blood pressure, mmHg							
SBP	132.7 (16.6)	128.5 (14.1)	0.004	125.9 (12.5)	0.001	140.7 (21.0)	0.08
DBP	83.1 (9.5)	80.4 (7.7)	0.03	79.5 (8.0)	0.02	86.7 (11.7)	0.07
Pulse pressure	49.6 (10.9)	48.0 (9.3)	0.01	46.4 (8.0)	0.003	53.8 (14.9)	0.29
Lipid at exam 1, mg/dL							
Triglycerides	292.6 (271.1)	310.7 (190.0)	0.12 [§]	337.2 (208.7)	0.05 [§]	329.1 (362.6)	0.89 [§]
Cholesterol	235.6 (44.6)	248.6 (42.7)	0.04	250.2 (39.9)	0.05	225.4 (41.2)	0.28

*: Mean (SD) unless otherwise indicated; [†]: adjusted for age at exam 3; [‡]: log-transformed; [§]: triglycerides are log-transformed for computation of the comparison. SBP = systolic blood pressure, DBP = diastolic blood pressure; event includes death, dementia or end of follow-up.

Table S5. Median (25th; 75th percentiles) of average cortical neuropathology counts per plasma A β tertile: HAAS A β sub-study

Neuropathologic lesion	A β tertile (from low to high)			P trend*
	T1	T2	T3	
	Median (25%, 75%)	Median (25%, 75%)	Median (25%, 75%)	
A β 1-40, n	18	27	28	
Neuritic plaques	0.41 (0.33; 0.85)	0.34 (0; 2.70)	0.47 (0.04; 1.36)	0.46
Neurofibrillary tangles	0.64 (0; 2.37)	0.96 (0; 1.56)	0 (0; 2.0)	0.32
A β 1-42, n	24	31	18	
Neuritic plaques	0.44 (0; 2.68)	0.57 (0; 3.1)	0.23 (0.03; 0.66)	0.15
Neurofibrillary tangles	1.08 (0; 2.90)	0.05 (0; 2.0)	0 (0; 0.70)	0.52
A β 1-40/A β 1-42 ratio, n	20	25	28	
Neuritic plaques	0 (0; 0.21)	0.26 (0; 2.24)	1.07 (0; 2.9)	0.41
Neurofibrillary tangles	0.07 (0; 0.68)	1.05 (0; 7.5)	0.41 (0; 2.68)	0.10

*: Adjusted for age at exam 3 and time from blood draw to censoring event (death, dementia or end of follow-up).