Supplementary Material

Gait Disturbances Are Associated with Increased Cognitive Impairment and Cerebrospinal Fluid Tau Levels in a Memory Clinic Cohort

Supplementary Table 1. Linear mixed models

	β(SD) rhythm	β(SD) variability	β(SD) pace	β(SD) length variability
Diagnosis groups				
WALK	-0.344 (0.445)	-0.205 (0.363)	-0.0424 (0.105)	-0.0184 (0.141)
MCI	0.212 (0.805)	0.179 (0.677)	-0.114 (0.489)	0.344 (0.249)
Dementia	-0.818 (0.92)	-0.202 (0.772)	-1.25 (0.534)**	-0.00876 (0.285)
WALK x MCI	0.706 (0.61)	0.216 (0.497)	0.28 (0.143)*	0.00877 (0.193)
WALK x Dementia	-0.0193 (0.794)	-0.112 (0.647)	0.342 (0.188)*	0.111 (0.252)
Amyloid				
WALK	-1.26 (0.914)	-0.0519 (0.766)	-0.1 (0.273)	-0.0184 (0.141)
Aβ	-0.00118 (0.00127)	-0.000214 (0.00112)	0.00029 (0.000895)	0.344 (0.249)
WALK x Aβ	0.00101 (0.00101)	-0.000346 (0.000842)	0.000202 (3e-04)	-0.109 (0.169)
Total tau				
WALK	0.623 (0.563)	0.351 (0.477)	-0.0562 (0.173)	-0.0184 (0.141)
tau	0.00322 (0.00147)**	0.00192 (0.00129)	0.000366 (0.00105)	0.344 (0.249)
WALK x tau	-0.00241 (0.00112)**	-0.00166 (0.000952)*	0.000308 (0.000344)	-0.109 (0.169)
p-tau				
WALK	0.763 (0.696)	0.467 (0.587)	-0.0472 (0.212)	-0.0184 (0.141)
ptau	0.0261 (0.0137)*	0.0167 (0.012)	0.00304 (0.00979)	0.344 (0.249)
WALK x ptau	-0.0194 (0.0105)*	-0.0137 (0.00888)	0.00202 (0.0032)	-0.109 (0.169)
ratio total tau/amyloid				
WALK	-0.0288 (0.454)	-0.367 (0.383)	0.0232 (0.137)	0.0391 (0.148)
ratio	0.49 (0.638)	0.278 (0.557)	-0.101 (0.449)	0.232 (0.203)
WALK x ratio	-0.575 (0.504)	0.0389 (0.425)	0.0758 (0.151)	-0.165 (0.164)

* p<0.1; ** p<0.05; *** p<0.001

Beta coefficients and their standard deviations for all linear mixed models. All models had the same design: gait domain ~ condition + variable + condition: variable. The dual condition was chosen as reference condition. For the variable diagnosis group, the CN group was chosen as reference group. The amyloid, total tau, p-tau, and ratio variables were continuous measures.

Supplementary Table 2. Linear mixed models with AD dementia patients only

	β(SD) rhythm	β(SD) variability	β(SD) pace	β(SD) length variability
Diagnosis groups				
WALK	-0.339 (0.451)	-0.194 (0.369)	-0.0419 (0.104)	-0.0221 (0.146)
MCI	0.269 (0.804)	0.157 (0.681)	-0.0638 (0.5)	0.378 (0.255)
Dementia	-0.88 (1.09)	-0.0789 (0.924)	-1.18 (0.659)*	0.0698 (0.348)
WALK x MCI	0.698 (0.619)	0.205 (0.505)	0.279 (0.142)*	0.0111 (0.2)
WALK x Dementia	-0.253 (0.985)	-0.747 (0.804)	0.561 (0.225)**	0.163 (0.318)
Amyloid				
WALK	-1.67 (1)*	-0.747 (0.856)	-0.108 (0.297)	-0.0221 (0.146)
Aβ	-0.00113 (0.0013)	-0.000581 (0.00121)	0.000566 (0.000955)	0.378 (0.255)
WALK x Aβ	0.00134 (0.00108)	0.000283 (0.000924)	0.000232 (0.000321)	-0.135 (0.177)
Total tau				
WALK	0.537 (0.595)	0.289 (0.51)	-0.0365 (0.181)	-0.0221 (0.146)
tau	0.00306 (0.00143)**	0.0018 (0.00134)	0.00021 (0.00108)	0.378 (0.255)
WALK x tau	-0.0024 (0.00115)**	-0.00183 (0.000988)*	0.000305 (0.000351)	-0.135 (0.177)
p-tau				
WALK	0.589 (0.741)	0.381 (0.632)	-0.0311 (0.224)	-0.0184 (0.141)
ptau	0.0237 (0.0135)*	0.0135 (0.0126)	0.00285 (0.0101)	0.344 (0.249)
WALK x ptau	-0.0179 (0.0109)	-0.0145 (0.0093)	0.00207 (0.00329)	-0.109 (0.169)
Ratio total tau/Ab				
WALK	0.203 (0.51)	-0.00772 (0.437)	0.0399 (0.155)	0.115 (0.175)
ratio	1.18 (0.769)	1.04 (0.712)	-0.32 (0.565)	0.296 (0.267)
WALK x ratio	-1.17 (0.637)*	-0.809 (0.546)	0.0893 (0.193)	-0.333 (0.219)

* p<0.1; ** p<0.05; *** p<0.001

Beta coefficients and their standard deviations for all linear mixed models. All models had the same design: gait domain ~ condition + variable + condition: variable. The dual condition was chosen as reference condition. For the variable diagnosis group, the CN group was chosen as reference group. The amyloid, total tau, p-tau, and ratio variables were continuous measures.