Apathy and Incident Cognitive Disorders in Community Dwelling Older Adults

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BACKGROUND

Apathy is a psychological syndrome characterized by lack of motivation, interest, flattening of affect and social withdrawal.

Recent investigations highlight apathy as a separate entity from depression, which is uniquely correlated (independent of presence of depressive symptoms) to cognitive and functional decline in neurologic diseases like stroke, Parkinson's disease (PD) and dementia.

OBJECTIVE

The objective of this study was to investigate the association between apathy at baseline and incident cognitive disorders including dementia, MCI and motoric cognitive risk syndrome (MCR) in older adults without dementia.

MCR is a recently described pre-dementia syndrome characterized by slow gait and subjective cognitive complaints, and is associated with a threefold increased risk of dementia, even after accounting for diagnostic overlap with MCI.

METHODS

We prospectively studied the association between baseline apathy and incident cognitive disorders (i.e. dementia, MCI and MCR) in:

- 542 community dwelling older adults in the Central Control of Mobility in Aging (CCMA) cohort study
- ≥65 years old English speaking adults
- Without dementia

Apathy was defined by a score of ≥2 on the 3-item subscale (GDS3A) of the Geriatric Depression Scale Long Form.

Associations were reported as hazard ratio (HR) with 95% confidence intervals (CI).

RESULTS

Table 1: Baseline Characteristics of CCMA Participants by Apathy Status n=542

	Study Population Mean(±SD)	No Apathy N=382 Mean(±SD)	Apathy N=160 Mean(±SD)	P-value
Age, yrs	76.0(±6.7)	75.6(±6.31)	77.1(±6.74)	.01*
Female % (N)	55.2 (299)	54.7 (209)	56.3 (90)	.77
Race Ethnicity % (N)				.376
White	79.7(432)	81.4 (311)	75.6 (121)	
Black	16.4 (89)	14.7 (56)	20.6 (33)	
Hispanic	2.0 (11)	2.1 (8)	1.9 (3)	
Other	1.8 (10)	1.8 (7)	1.9 (3)	
Education, yrs	14.7(±2.95)	14.7(±2.95)	14.2(±2.90)	.06
Depression	10.9 (59)	9.2 (35)	15.0 (24)	.07
Stroke	5.4 (29)	5.2 (20)	5.6 (9)	1.00
HTN[a]	61.1 (331)	57.6 (220)	69.4 (111)	.01*
GHS[b]				.001*
None	15.7 (85)	18.1 (69)	10.0 (16)	
1 or 2	63.7 (345)	64.9 (248)	60.6 (97)	
≥3	20.7 (112)	17.0 (65)	29.4 (47)	

*p value <.05
[a]Hypertension
[b]Global Health Score: number of comorbidities

Table 2: Cox Proportional Hazard Models of the Risk of Incident Cognitive Disorders , MCR and MCI for Baseline Apathy

	Cognitive Outcomes (Dementia, MCI, MCR)		MCR		MCI	
Model	HR (95%CI)	p-value	HR (95%CI)	p-value	HR (95%CI)	p-value
Model 1	1.12 (.71-1.77)	.62	1.86 (.90-3.83)	.09	1.17 (.72-1.88)	.53
Model 2	1.44 (.91-2.29)	.12	2.49 (1.18-5.25)	.02*	1.57 (.97-2.56)	07
Model 3	1.54 (.95-2.48)	.08	2.39 (1.10-5.20)	.03*	1.64 (.99-2.71)	.06

*p-value< 0.05
Model 1: Adjusted for age and years of education
Model 2: Model 1 and global cognition based on RBANS score
Model 3: Model 2 and adjusted for depression

RESULTS

The prevalence of apathy (GDS3A≥2) was 29.5%.

Between 2011 and 2017, 83 participants developed a cognitive disorder.
- There were 75 cases of MCI, 30 cases of MCR and one case of dementia.

Apathy was significantly associated with older age and history of hypertension in bivariate analyses (Table 1).

Apathy was significantly associated with incident MCR ((HR 2.39, 95% CI: 1.10-5.195)), after adjusting for age, education, baseline cognitive performance and depressive symptoms (Table 2).

Apathy was not significantly associated with MCI or cognitive disorders in general.

CONCLUSIONS

Apathy was found to be a predictor of MCR but not MCI or cognitive disorders in gerneral in a cohort of community dwelling older adults.

These associations were independent of baseline cognitive performance and depressive symptoms.

The findings of this study highlight the role of apathy (independent of depression) as a potentially important early risk factor for dementia in older community dwelling adults.

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