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Editorial

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Tailored Care for Dementia Patients with Cerebrovascular Pathology

Majon Muller, MD, PhD

Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Internal Medicine, Geriatrics section, Amsterdam, The Netherlands

Amsterdam Cardiovascular Sciences, Amsterdam, the Netherlands

Editorial

With the growing incidence of patients with dementia, there is an emerging need for optimal care for patients and caregivers. Patients with cognitive disorders often become dependent on care in daily activities, largely provided by informal caregivers who often perceive care giving as burdensome [1]. In combination with the current tendency to live at home for as-long-as-possible, sufficient formal care is crucial. In Western countries, Vascular Cognitive Impairment (VCI) is the second most common cause of clinically diagnosed dementia. In addition, 30-70% of patients with diagnosed Alzheimer's disease have significant cerebrovascular pathology [2]. Patients with cerebrovascular pathology or VCI have symptoms that are distinctive from typical Alzheimer's disease. In these patients, cerebrovascular pathology can cause impairment in other cognitive domains such as processing speed, but also other symptoms such as motor and mood symptoms [3].

Results from the Amsterdam Ageing Cohort confirm this [3]. Of N=315 patients with a dementia diagnosis 38% had no/mild cerebrovascular pathology (Fazekas 0/1), 36% had moderate cerebrovascular pathology (Fazekas 2), and 26% had severe cerebrovascular pathology (Fazekas 3). Within this cohort the presence of typical Alzheimer's disease symptoms, such as memory and executive impairment, were not dependent on severity of cerebrovascular pathology **(Table 1).** However, dementia patients with severe cerebrovascular pathology had significantly reduced processing speed, more apathy symptoms and reduced gait speed compared to dementia patient with no or mild cerebrovascular pathology **(Table 1)**.

Table 1: Relation between presence/extent of cerebrovascular pathology (white matter hyperintensities) and clinical symptoms in N=315 patients with a dementia diagnosis.

	White matter hyperintensities		
	No/mild (Fazekas 0/1) N=118	Moderate (Fazekas 2) N=113	Severe (Fazekas 3) N=84
Memory (z-score)	Ref	0.04 (-0.14; 0.22)	0.12 (-0.08; 0.31)
Executive function (z-score)	Ref	0.17 (-0.15; 0.49)	0.18 (-0.17; 0.52)
Processing speed (z-score)	Ref	-0.38 (-0.68; -0.08)*	-0.45 (-0.77; -0.14)**
Apathy (symptoms)[¥]	Ref	0.21 (-0.05; 0.47)	0.43 (0.15; 0.72)**
Gait speed (m/s)	Ref	-0.04 (-0.29; 0.22)	-0.46 (-0.75; -0.18)**

Adjusted for age, sex, and education.

* P<0.05; ** P <-0.01

[¥] apathy was measured through the GDS subscale (score 0-3)

Slower thinking (reduced processing speed), mood (more apathy symptoms), and walking (reduced gait speed) are interrelated and often mistaken as normative features of human aging **[3]**. However, we believe that extreme slowing is pathological as it is associated with cerebrovascular pathology and adverse outcomes such as mortality, cardiovascular events, or functional decline **[3-5]**. In addition, earlier studies have suggested that these slowing symptoms -associated with cerebrovascular disease- are related to higher caregiver burden **[1]**. Available dementia care structures mainly focus on patients with typical Alzheimer's disease symptoms and not on the slowing symptoms. We emphasize the importance of identifying the presence of slowing symptoms in patients with cerebrovascular pathology and tailoring care needs of these patients and their caregivers. Needs and wishes of these patients and their informal caregivers towards care could be improved by providing tailored information, promoting awareness of neuropsychiatric symptoms, particularly apathy, and by healthcare professionals providing more guidance in decision-making **[6].** Further, the current care structure for dementia patients with co-morbid cerebrovascular pathology is fragmented, unstructured and largely reactive, provided by various professionals **[7].**

Therefore, a coordinated, proactive, multidisciplinary approach tailored to the specific patient-caregiver wishes is necessary to tailor the care needs of dementia patients with cerebrovascular pathology. Tailored care could ultimately improve quality of life for these patients and their caregivers and hence saves costs. Connecting all relevant professionals is a major challenge. Innovative solutions, like digital multidisciplinary care platforms, have the potential to aid the current care structure to become more comprehensive and integrated.

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