



Comprehensive geriatric assessment is of value when diagnosing cognitive disorders in older patients and beyond

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Comprehensive geriatric assessment (CGA) is the core diagnostic and treatment tool which over decades has proven its effectiveness in various health care settings and specific clinical conditions common in older patients [1]. It is particularly intended to identify and manage previously undetected geriatric syndromes known to carry a risk of adverse health outcomes. Cognitive impairment and dementia are recognized as a decidedly prominent geriatric syndrome and are often related to and share risk factors with a number of other syndromes.

Geriatric syndromes have been reported to occur in early-stage Alzheimer's disease (AD) and dementia with Lewy bodies (DLB) [2] and therefore may well be detected in conjunction with diagnostic investigations. Geriatric syndromes appear to be particularly common in patients with DLB [2–4]. As demonstrated in the study by Naharchi and coworkers [5], some of the geriatric syndromes detected in newly diagnosed patients with DLB, namely falls, urinary incontinence and orthostatic hypotension, are listed as supportive clinical features for the diagnosis of probable and possible DLB [6]. Moreover, a large number of additional geriatric syndromes were identified including polypharmacy, depression, insomnia, malnutrition and functional impairment.

Geriatric syndromes may represent key diagnostic features of other cognitive disorders besides DLB. A classic example of such a disorder, although not very common, is idiopathic normal pressure hydrocephalus (NPH) consisting of the symptom triad of gait dysfunction, cognitive impairment and urinary incontinence [7, 8]. Of the vascular dementias (VaD), cerebral small vessel disease (CSVD) shares to

some extent the same symptom complex. Depending on the location of the cerebral lesions, the clinical picture may be that of mild cognitive dysfunction, dementia, mood disorders, motor and gait dysfunction and urinary incontinence [9]. Interestingly, a group of experts have proposed that vascular ageing and vascular diseases may be implicated in the development of many geriatric syndromes besides cognitive impairment and dementia [10]. The authors argued that this could open prospects for the prevention and treatment of these syndromes.

Malnutrition or risk of malnutrition are common in patients with cognitive disorders and dementia [11, 12]. Unintentional weight loss may present as a prodromal symptom of incipient cognitive disorder, such as AD [11]. The relationship between dementia subtypes and nutritional parameters in older adults was recently investigated in a retrospective study of newly diagnosed patients with dementia who underwent CGA [11]. The influence of nutritional status appeared to be stronger in DLB and VaD than in other types of dementia and less marked in frontotemporal dementia. Another geriatric syndrome, oropharyngeal dysphagia, may occur either in early phase or usually during the subsequent progression of the disease and further impair nutritional status [13]. Nutritional assessment is a fundamental part of the CGA in patients with cognitive impairment and dementia from the time of diagnosis and throughout the whole course of the disease.

Dementia and MCI double the risk of falls and falls related injuries such as hip fractures, head injuries and fractures of the arm [14]. In a systematic 2-year follow-up of older hip fracture patients, 23% of patients with no known diagnosis of cognitive disorder prior to the fracture were diagnosed with one [15]. Moreover, one-third of the patients had a known diagnosis prefracture. The patients receiving a new diagnosis of cognitive disorder were likely to suffer from mobility impairment, to have poor nutritional status and supported living arrangements in the outpatient CGA carried out 4–6 months postoperatively.

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The current world falls guidelines [14] include a strong recommendation for assessment of cognition as a part of multifactorial falls risk assessment in older adults. This should apply in particular to secondary prevention of falls and falls related injuries. Conversely, multifactorial falls risk assessment as a part of the CGA is highly warranted in patients with cognitive impairment. The diagnostic phase provides an opportunity for this.

Physical frailty and cognitive impairment are known to have a close relationship and the concept of cognitive frailty has been introduced to define their co-presence [16]. Moreover, a recent meta-analysis involving 26 studies and 18,788 participants demonstrated an association between sarcopenia and cognitive impairment in older people [17]. Motor cognitive risk syndrome (MCR) has been defined as the presence of slow gait and subjective cognitive complaints [16, 18]. The syndrome has been reported to be associated with an increased risk of dementia and may thus help to better identify individuals at risk [16]. MCR has been described as a similar entity to cognitive frailty but a milder stage and has been observed in patients with mild cognitive impairment (MCI) due to AD [18]. Emerging research suggests that screening and further assessment of frailty and sarcopenia would merit inclusion in the CGA of cognitively impaired patients.

CGA has value at the time of diagnosis of cognitive disorder and beyond. By identifying various geriatric syndromes, CGA may add to the diagnostics in an individual patient. Moreover, by implementing a CGA, a personalized treatment and rehabilitation plan can be constructed in a timely manner. The plan would target essential domains of the CGA and include interventions such as medication review, nutritional and oral health care, physical exercise, falls prevention as well as psychosocial and caregiver support. This would, in the best case, improve the health outcomes of this vulnerable patient group in terms of supporting their functional ability, patient safety and, above all, maintaining their quality of life. It is essential to ensure continuity of care for the patients and to repeat CGA as the disease progresses. Even patients living with dementia and frailty in long-term care are likely to benefit from this approach. Geriatricians have a major role in achieving these goals through healthcare development and research in the increasingly important field of cognitive disorders in ageing populations.

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