Subjective cognitive failures (SCF) are frequent in the elderly and have traditionally been considered as a manifestation of natural or physiological aging. Sufferers describe them to family and friends as forgetting to do things they had proposed, temporal and spatial absentmindedness when out and about, or difficulties in remembering the names of acquaintances or familiar buildings or landmarks. SCF are usually regarded as something normal in the elderly but start to be considered as a warning sign of possible cognitive impairment and the first sign of dementia when they become frequent and affect the family environment. In these circumstances, SCF are usually first reported to the family physician, who may or may not initiate examinations to objectively determine the magnitude of the possible cognitive impairment, the repercussions on daily life, and the effect on the future of the elderly person.

With the progressive aging of the population in the most developed countries, because of greater access to health care and the success of preventive and curative medicine, this type of behavioral deterioration has become more frequent and more evident in the elderly. In addition, various studies have demonstrated an association between SCF and cardiovascular risk factors and clinical cardiovascular disease in the context of generalized arteriosclerosis. Likewise, SCF has been linked not only with cerebral vascular disease but also with coronary artery disease, peripheral artery disease, and renal failure. Given that hypertension is the most important cardiovascular risk factor, there is growing interest in the relationship between hypertension and cognitive impairment, as shown by the increasing number of reports on this subject. In the past 5 years, more articles have been published on this relationship than in the preceding 50 years.1

The border between what may be considered as physiological and pathological cognitive impairment is diffuse and has never been precisely identified. The right time for objective examination of cognitive function in a patient having SCF in daily life is unclear. However, this is of great importance because if cognitive impairment is an expression of functional damage to the neurons caused by cardiovascular risk factors as a result of ischemic phenomena in the small cerebral arteries, early detection may open the door to prevention of their progression or, at least, may aid to slow the advance of the process. One reason that SCF have not previously attracted much attention is that their association with objective tests of intellectual deterioration has not been conclusive until now. Many studies have been unable to demonstrate convincingly a relationship between SCF and cognitive impairment after adjustment for confounding factors such as anxiety, depression, and reduced physical activity in the elderly; and only a few studies have demonstrated a positive association.1 In this issue of Hypertension, Uiterwijk et al7 report convincing evidence of the association between SCF and objectively measured overall cognition, memory, and information-processing speed after adjustment for patient characteristics and vascular risk factors. This observation is valuable because the authors used a standardized 25-item questionnaire to explore SCF and analyzed this score as a continuous variable, unlike the majority of previous studies exploring this issue. Therefore, the discrepancy between negative and positive studies may have been due, in part, to methodological aspects. In fact, negative studies used tests with fewer questions on cognitive complaints than those used in positive studies or used insufficient screening instruments when assessing objective cognitive performance, that is, the Mini-Mental State Examination instead of an extensive neuropsychological assessment covering more cognitive domains, such as immediate memory, delayed recall and delayed recognition, the executive function domain, and information-processing speed. These last tests are much more sensitive and may detect early cognitive decline even in middle-aged patients with hypertension.3

By contrast, many studies have demonstrated a close relationship between hypertension and objective cognitive impairment, both in subjects without clinical cerebral disease and after a stroke. In addition, in the past 15 years, abundant evidence has emerged of the association between hypertension and silent brain lesions in cerebral MRI as manifestations of cerebral small vessel disease, including silent lacunar infarcts, white matter hyperintensities, microbleeds, and enlarged perivascular spaces.4 These types of lesions are commonly found together in patients with hypertension, with the most frequent association being asymptomatic lacunar infarcts plus white matter hyperintensities plus enlarged perivascular spaces.7 Likewise, white matter hyperintensities are commonly associated with microbleeds in patients with hypertension, particularly in those with mild cognitive decline expressed as an Mini-Mental State Examination score below normal (<27).4 In all these cases, a close relationship between high blood pressure values and silent structural brain damage and cognitive impairment has been suggested.

See related article, pp 653–657

Antonio Coca, Cristina Sierra

Hypertension is available at http://hyper.ahajournals.org
DOI: 10.1161/HYPERTENSIONAHA.114.03730

The opinions expressed in this editorial are not necessarily those of the editors or of the American Heart Association.

From the Hypertension and Vascular Risk Unit, Department of Internal Medicine, Institute of Medicine and Dermatology, Hospital Clinic (IDIBAPS), University of Barcelona, Barcelona, Spain.

Correspondence to Antonio Coca, Department of Internal Medicine, Hospital Clinic, C/Villarreal 170, 08036 Barcelona, Spain. E-mail acoca@clinic.ub.es

decline has been observed not only in the elderly but also in middle-aged untreated patients with hypertension, particularly when 24-hour ambulatory blood pressure monitoring is used.9

Uiterwijk et al4 also report a significant relationship between SCF and cerebral microbleeds, confirming the findings of Van Norden et al.10 This is important because these findings may represent the link between structural alterations and SCF in patients with hypertension. Because of the small number of patients analyzed and the cross-sectional design, the findings should be confirmed in further studies with larger sample sizes and a prospective longitudinal design. If the detection of SCF is a true and reliable predictor of more severe cognitive decline or dementia, it should be routinely tested for in middle-aged patients with hypertension using sensitive tests. If the results are positive, early antihypertensive treatment and strict blood pressure control should be achieved and sustained over time to prevent evolution to dementia. At present, no specific treatment strategy has demonstrated superiority over another, although the combination of a calcium channel blocker with renin–angiotensin system blockade significantly reduced the incidence of dementia in elderly patients with isolated systolic hypertension included in the SystEur study, whereas combining a thiazide diuretic with a β-blocker did not achieve the same beneficial effect in comparable patients included in the Systolic Hypertension in the Elderly Programme (SHEP) study.

Disclosures

None.

References
