

LETTERS

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Outcomes in complex patients with delirium and subsyndromal delirium one year after hospital discharge

There has been an increasing interest in delirium as a clinical syndrome in elderly patients in the last years (de Rooij *et al.*, 2005). Until now the diagnosis has been dichotomous, but recent studies appear to show that a further categorization of this syndrome may lead to a higher diagnostic and prognostic value. The subsyndromal delirium (SSD) displays some of the symptoms without developing the full syndrome and it is intermediate in severity between non-delirious controls and full syndromal delirium, although it has no officially recognized diagnostic criteria (Levkoff *et al.*, 1996). There is growing evidence about the prognostic significance of SSD among elderly individuals, but to date there are very few published studies on SSD in elderly patients. The goal of our study was to corroborate one-year outcomes after discharge. With this aim we performed a prospective multicenter study in March 2011 that recruited patients aged 75 years and older admitted to the acute geriatric wards of three tertiary hospitals in Spain – Complejo Hospitalario de Navarra, Hospital Universitario de Getafe, and Hospital Marqués de Valdecilla – at the same time during a 48-hour period, and were then followed up for one year. Four geriatricians were responsible for the patients' screening and enrollment. A thorough geriatric assessment included clinical and demographic information (age, sex, education level, living arrangements before admission, presence of visual and hearing impairment) and comorbidity with the Cumulative Illness Rating Scale-Geriatric (CIRS-G). The CIRS-G rates 13 body systems on a five-point severity scale and is reliable because it allows all comorbid diseases from clinical examinations and medical files to be taken into account in a comprehensive manner.

Every geriatrician completed the assessment of dependence in daily and instrumental activities by means of the Barthel and Lawton indexes, the Global Deterioration Scale (GDS) for the assessment of dementia, and the nutritional status by the Short-Form Mini-Nutritional Assessment (MNA-SF). They were first screened using the validated Spanish version of the Confusion Assessment Method (CAM; González *et al.*, 2004), and then established the final diagnoses of delirium according to the DSM-IV criteria. The SSD clinical diagnostic

criteria we used were based on Marcantonio *et al.*'s (2005), who defined them as the non-full presence of each and every CAM definitive delirium criteria, i.e., as the presence of at least one of such criteria. Thus, patients were grouped into three mutually exclusive groups: (a) delirium, (b) SSD, and (c) non-delirium. To assess the relationship of delirium and SSD with different variables, we used the χ^2 test or Fisher's test, the trend test in proportions, and the T-test or the Mann Whitney test. In multivariate models, linear or logistic, we have tried as covariates all variables with at least marginal significance in bivariate analysis. The proxies of subjects (usually close family members) were approached to provide informed consent for enrollment in the study.

During the course of the study 85 patients were enrolled, and all of them were followed up for one year. During the 48-hour screening period, 75.3% of the patients showed at least one positive item in the CAM. Forty-five (53%) patients were diagnosed with delirium and 19 (22.3%) with SSD. The mean age of the patients was 87.0 years (SD = 6.0), 56.5% of them were women, 22% were living in residential care, and 65.9% had <25 points in the Spanish version of the Folstein Mini-Mental State Evaluation (MMSE). At one-year follow-up, 34 (40%) of the patients had died (51% of the patients with delirium, 39% with SSD, and 47% without delirium). In the bivariate analysis the risk of death does not appear to be associated with any of the variables except the CIRS-G. One-year evolution of the Barthel index was positively associated with the degree of dementia and negatively associated with the initial values of both Barthel and Lawton indexes (patients with higher initial Barthel/Lawton indexes have higher losses in the Barthel index). Adjusting for the initial CIRS-G and the Barthel index, the diagnosis of SSD does not appear to be significantly associated with the Barthel index variation at 12 months, while the diagnosis of delirium remains significantly associated with reduction in the Barthel index value at one year ($p = 0.022$).

Findings from this study confirm the high prevalence of delirium and SSD but fail to show the gradient in functional outcomes one year after hospital discharge that our baseline study suggested (Martinez Velilla *et al.*, 2012). We did not find delirium to be related to some common deleterious consequences, such as mortality. Some studies have suggested that delirium *per se* is not independently associated with excess mortality after controlling for important delirium risk factors, such as illness severity, as we did with the CIRS-G. They suggest that

delirium might be an exceptionally good marker for comorbid diseases. In fact, in the bivariate analysis only the CIRS-G was associated with mortality. Previous studies have shown that there is evidence for a disease spectrum between delirium and SSD, but our study fails to show this spectrum. Our population study is considerably older and shows a higher prevalence of functional and cognitive impairment, so the life expectancy is lower with high competing mortality risks that make it difficult to find significant associations for some health outcomes. In fact, our patients are probably the oldest population in SSD studies. If we had used a stricter definition of SSD, such as fulfilling at least two CAM items instead of just one, perhaps we could have shown a theoretical gradient in outcomes along the delirium spectrum according to our complex patients with a high prevalence of cognitive impairment.

Although some researchers do not support the hypothesis of a spectrum of disease (no-delirium, SSD, delirium), we think that it is important to investigate about the validity of the SSD criteria. This approach could help get early diagnoses and improve patient management. We believe that it is essential to make progress in the investigation of SSD diagnostic criteria. Probably these criteria should be different in patients with a high degree of cognitive impairment. Future studies should include older patients as well as different degrees of cognitive impairment.

Conflict of interest

The authors do not have any financial support or relationship that may pose conflict of interest.

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Self-neglect: a survey of old age psychiatrists in Ireland

Self-neglect in old age is complex, challenging, and likely to increase in the future. Self-neglect is characterized as the behavior of an elderly person that threatens his or her own safety. Self-neglect is the most common form of abuse and neglect reported to Adult Protective Services in the United States (see Teaster, 2000). Self-neglect is also associated with a significantly increased mortality in victims (Dong *et al.*, 2009). Self-neglect has become a significant public health problem affecting not just the victims but also family members, friends, and frequently the

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community at large. Characteristics of self-neglect include a failure to provide oneself with adequate food, water, clothing, shelter, or a safe environment and neglect of personal hygiene and medical treatment (O'Brien, 2011).

It is likely that self-neglecting individuals have significant contact with the medical community and frequently require an evaluation and assistance by old age psychiatrists. On this basis, it was decided to survey old age psychiatrists in Ireland. To our knowledge, this is the first time this group has ever been surveyed regarding the subject of self-neglect in old age.

To accomplish this, a survey was prepared as a collaborative effort among academic old age psychiatrists and geriatricians. Approval for the study was