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Screening for Misuse of Approved Antidementives in the Elderly Non-Demented Hospital Population

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Abstract

Objective: To screen for misuse of approved antidementives (ADD) in an elderly non-demented population because of lack of information on this subject.

Methods and Results: In a German general hospital, 671 in-patients of ≥ 65 years of age were randomly visited to be examined as to current and past abuse of and dependence on ADD using a personal interview (SKID-I) based on DSM-IV-TR. Among them, 400 (75 ± 6.4 years; 63% females) agreed with participation in this cross-sectional study. The addiction section of SKID-I had been expanded to the ADD rivastigmine, donezepil, galantamine and memantine. Accordingly, there was no person abusing or being dependent on any ADD in question, neither in the past nor currently.

Discussion: One third of the cohort did not agree with participation in the study, which bears the risk of an underestimation of ADD being misused.

Conclusion: A misuse of ADD in the elderly non-demented hospital population could not be identified what did not support a potential addiction potential of these drugs.

Keywords: Antidementives; Addiction; Elderly

Introduction

Changes in glutamatergic tone as well as imbalances of dopamine/acetylcholine actions in brain reward and its inhibitory cognitive control play a major role in the induction and maintenance of drug addiction [1-3]. Approved antidementiva drugs (ADD), both acetylcholinesterase inhibitors (rivastigmine, donezepil, galantamine) and the noncompetitive NMDA-receptor antagonist memantine, may target those functional networks. Additionally, some ADD are assumed to have cognition enhancing effects [4], which might inspire especially elderly people to use them since normal aging means a decreased ability e.g. to form new memories [5]. We are not aware of any other study addressing the potential addictive potential of ADD in a naturalistic setting.

Methods and Results

A cohort of 400 in-patients of ≥ 65 years of age (75 ± 6.4 years; 63% females) in an urban German general hospital was examined as to current and past abuse of and dependence on ADD in a cross-sectional design. Data were collected from October 2012 to October 2013 by personal interview (J.C.C.) using a well-tested structured clinical interview (SKID-I) [6], which is based on DSM-IV-TR and which is the German successor of SCID-I [7]. Its addiction section E was expanded to rivastigmine, donezepil, galantamine and memantine. 671 patients ≥ 65 years old were randomly visited in various departments (Gynecology 2%, Gastroenterology 6%, Psychiatry 8%, Geriatrics 13%, Neurology 18%, Internal Medicine 24%, General and Trauma Surgery 29%) after their third day in hospital assuming that the acute crisis which led to their admission was in de-escalation at that time. Among them, 224 refused the interview and 46 were not included because they achieved < 25 points in the Mini-Mental Status Test. One patient withdrew consent afterwards. Whereas 124 (31% of the remaining 400 patients interviewed) were found to be currently dependent on a substance (mostly nicotine and opioid analgesics) there was no case abusing or being dependent on any ADD in question, neither in the past nor currently. We could not identify any patient who had ever used or got prescribed an ADD e.g. to improve concentration, learning ability or memory.

Discussion

Although 31% of the cohort was currently dependent on substances and might suffer from some deficits in executive function and inhibitory cognitive control [2], none was found who has ever tried out said cognition enhancing effects of ADD [4]. In contrast to anticholinergic drugs, which have been described to have (minor) euphoriant and stimulating effects in psychiatric patients taking neuroleptics [8], cases of ADD being addictive could not be found in literature, which was confirmed in this study. Recent preclinical data even suggest anti-addictive properties of ADD [3,9]. However, a good portion of the cohort (33.4%) did not agree with participation in the study, which bears the risk of an underestimation of ADD being misused.

Conclusion

A misuse of ADD in the elderly non-demented hospital population could not be identified which did not support a potential addiction potential of these drugs.

Conflict of Interest

U.B. received fees for lectures and the organization of training courses by the following pharmaceutical companies:

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Actelion, Boehringer-Ingelheim, Bristol-Myers Squibb, esparma, GlaxoSmithKline, Janssen-Cilag, Lilly, Lundbeck, Merz, and Servier. N. J.C.C. had no conflict of interest.

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