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LETTER TO THE EDITOR

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Off-label use of quetiapine in nursing homes: Does medical specialty of prescribing physicians play a role?

Off-label prescribing occurs commonly and includes the use of a drug outside its licensed indication in special patient populations such as the elderly.[1] Elderly patients are at increased risk of adverse drug events (ADEs) due to age-related pharmacodynamic and pharmacokinetic changes, underlying comorbidities, polypharmacy, and frailty.[2]

Quetiapine, an antipsychotic drug used for schizophrenia and bipolar disorder, is widely prescribed in elderly patients, increasingly for off-label indications such as insomnia, depression, anxiety, agitation, and dementia, in most cases with limited supporting evidence.[2-5] In frail older adults, quetiapine can cause serious ADEs, even at low doses, among which hip fractures, orthostatic hypotension, and pneumonia have been reported.[2,4] Moreover, the use of atypical antipsychotics in people with Alzheimer disease and other dementia is associated with an increased risk of mortality compared with placebo (OR 1.54; 95% CI, 1.06-2.23; P=0.02).[2-6]

A few characteristics of prescribing physicians have been shown to influence drug prescription: Male physicians, older physicians, and physicians preferring clinical experience or opinion leaders as the best source of knowledge in clinical decision making, as compared with scientific evidence, are more prone to off-label prescribing.[7]

The aim of this study was to describe quetiapine use (frequency, indications, and doses) in nursing homes of Southern Switzerland and to evaluate the impact of the medical specialty of prescribing physicians on the off-label prescription of quetiapine among nursing home residents. Anonymous data were collected during September to November, 2016, in 15 nursing homes from either electronic or paper medical records, on a single day. On a total of 1173 patients, 379 (32.3%) were treated with quetiapine. Of these, 278 (73.4%) were women, and mean age was 85.8 years. Due to patients having quetiapine as both chronic treatment and PRN (*pro re nata*, as needed), the total number of prescriptions was 476. Quetiapine in-label indications were 23 (4.8%), whereas off-label indications were 449 (94.3%). Quetiapine was most frequently prescribed for agitation (149, 31.3%), dementia (144, 30.3%), anxiety (73, 15.3%), depression (57, 12%), insomnia (32, 6.7%), and delirium (19, 4%).

In 417 (87.6%) quetiapine prescriptions, daily dose was lower than 100 mg, with the most frequently prescribed doses between 12.5 and 25 mg/day (196, 41.2%). Doses above 200 mg/day (as labelled in the summary of product characteristics for approved indications) were scheduled in 21 (4.4%) prescriptions.

Out of the 379 patients who received quetiapine, it was possible to define the medical specialty of the prescribing physician in 324 (85.5%) cases. Of these, 305 (94.1%) received quetiapine off-label: In 267 (87.5%) cases, quetiapine off-label prescription originated from general practitioners (family physicians or nursing home physicians), whereas in 38 (12.5%) from specialists (geriatrists or psychiatrists). There was a significant correlation between quetiapine off-label use and prescription made by general practitioners as compared to specialist physicians (OR 3.2; 95% CI, 1.2-8.8; P=0.04).

Our analysis showed that in nursing homes of Southern Switzerland, quetiapine is frequently used and often administered for off-label indications, mainly agitation and dementia. Noteworthy, previous studies found no evidence of benefit for quetiapine administered for agitation or psychosis in older adults with dementia,[8-10] and its long-term use was associated with a decline in cognitive and functional abilities as compared to patients without quetiapine.[8,9] Because the study sample was selected within the area of Southern Switzerland, the results of our study cannot be generalized to a broader population of nursing home residents. Moreover, by selecting patients with quetiapine prescription at a certain time of their staying in the nursing homes, selection bias possibly affects the internal validity of our study. Indeed, we might have missed patients with an initial quetiapine prescription received in the nursing home but subsequently interrupted at the time of data retrieval.

The correlation that we highlighted between quetiapine off-label use and prescription by general practitioners suggested that the medical specialty of prescribing physicians might represent a potential risk for quetiapine off-label prescribing in the elderly. Educational interventions focused on safe and aware prescribing by general practitioners, and a more frequent involvement of specialist physicians in nursing homes, might improve quetiapine prescribing in elderly nursing home residents.

CONTRIBUTORS

L.M., M.B., and A.C. contributed to the study conception and design. Material preparation, data collection, and analysis were performed by L.M., R.N., R.B., and A.C. The first draft of the manuscript was written by L.M., and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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COMPETING INTERESTS

The authors have no conflicts of interest to declare.

DISCLOSURES

According to the Human Research Act (810.30, of September 30th, 2011—status as of January 1st, 2014), from the Federal Assembly of the Swiss Confederation, ethical approval was not required (Art.2: "It does not apply to research which involves anonymously collected or anonymised health-related data").

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