



Do We Use Well Benzodiazepines in Elderly? a Case Report

Maria José Díaz Gutiérrez

Community pharmacist in a the Pharmacy office of Ines Barrenetxea, Alango street 7.in Getxo 48992, Spain; E-Mail: marijo72@euskaltel.ent

Published: 4 December 2015

Abstract:

A 75 year old man comes to the pharmacy to pick up the medications n prescribed after a 2 week hospitalization period due to a fall at his habitual residence, with the result of a broken femur. The patient lives in a nursing home where staff prepare his medication in customized dispensing systems. The unique new prescribed drug is paracetamol (1g) only if pain appears and with maximum dose of 3g per day. Tha patient daily consumes:

Mirtazapine 30 mg
Escitalopram 15 mg
Ketazolam 30 mg
Lorazepam 5 mg
Dutasteride 0.5 mg
Omeprazol 20 mg

We note that for their anxious-depressive symptoms he consumes two benzodiazepines at higher than recommended dose for his age along with two antidepressants, one of which has high doses sedative effect (mirtazapine). We do not know how long he has been taken with all these drugs but it refers than more than four months.

Because it is an retrospective evaluation we cannot establish a causal relationship of treatment with the fall, but we may suspect that the fall was triggered by an overdose of benzodiazepines. We get in touch with the doctor of the nursing home e to discuss the case who decides to withdraw ketazolam treatment and subsequently valued reduction in the dose of mirtazapine according to the patient's response.

The elderly population is a special risk group for drug adverse events, due to factors such as changes in pharmacokinetic and pharmacodynamic processes, with frequent presence of multiple pathologies and polypharmacy.

We must remember the importance of the review of the dose and duration of treatment with benzodiazepines in the elderly and follow the recommendations of clinical guidelines for selecting those with short or ultra-short BZD of life, at the lowest possible dose for the shortest time.

Keywords: benzodiazepines, elderly, overdose, accidental falls

1. Introduction

The beneficial effects of BZDs are often disputed and concerns expressed about their adverse events and high rates of prescription in older adults (1,2). Certainly, prescription decisions have to be made on a case-by-case basis and patients should be informed of both the risks and benefits of any prescribed medication (3).

There is an age-related increase in the rate and severity of adverse effects of drugs that act on the central nervous system, which often results

A 75 year old man comes to the pharmacy to pick up the medications prescribed after a 2 week hospitalization period due to a fall at his habitual residence, with the result of a broken femur. The patient lives in a nursing home where staff prepare his medication in customized dispensing systems. The unique new prescribed drug is paracetamol (1g) only if pain appears and with maximum dose of 3g per day. Table 1 shows the drugs taken by patients daily.

We note that for their anxious-depressive symptoms he consumes two benzodiazepines at higher than recommended dose for his age along with two antidepressants, one of which has high

from a decrease in the number of neurons and synapses and greater permeability of the blood-brain barrier (4). BZDs are one of the most commonly prescribed drugs in older adults because of their proven efficacy, but care must be taken as their use and abuse may lead to unwanted effects, including cognitive deterioration (5), motor incoordination, ataxia, falls (6-8) and respiratory failure (9-11).

2. Results and Discussion

doses sedative effect (mirtazapine). We do not know how long he has been taken with all these drugs but it refers than more than four months..

Because it is an retrospective evaluation we can not establish a causal relationship of treatment with the fall, but we may suspect that the fall was triggered by an overdose of benzodiazepines. We get in touch with the doctor of the nursing home to discuss the case who decides to withdraw ketazolam treatment and subsequently valued reduction in the dose of mirtazapine according to the patient's response.

Table 1. Situation before pharmaceutical intervention

| Health problem | Drug | Unit dose | Prescription | Total Daily dose |
|-----------------------------|--------------|-----------|--------------|------------------|
| Anxiety-depressive syndrome | Mirtazapine | 30 mg | 0-0-1 | 30 mg |
| Anxiety-depressive syndrome | Escitalopram | 15mg | 1-0-0 | 15 mg |
| Anxiety-depressive syndrome | Ketazolam | 30 mg | 0-0-1 | 30 mg |
| Insomnia | Lorazepam | 1 mg | 2-1-2 | 5 mg |
| Prostatic syndrome | Dutasteride | 0.5 mg | 1-0-0 | 0.5 mg |
| Gastric dyspepsia | Omeprazole | 20 mg | 1-0-0 | 20 mg |

3. Materials and Methods

4. Conclusions

The elderly population is a special risk group for drug adverse events, due to factors such as changes in pharmacokinetic and pharmacodynamic processes, with frequent presence of multiple pathologies and polypharmacy.

We must remember the importance of the review of the dose and duration of treatment with benzodiazepines in the elderly and follow the recommendations of clinical guidelines for selecting those with short or ultrashort BZD of life, at the lowest possible dose for the shortest time..

Author Contributions

MDG reported the case and wrote this report

Conflicts of Interest

The authors declare no conflict of interest.

References and Notes

1. Touitou Y. Sleep disorders and hypnotic agents: medical, social and economical impact. *Ann Pharm Fr.* 2007 ;65:230–8.
2. Bourin M. The problems with the use of benzodiazepines in elderly patients. *L'Encéphale.* 2010;36:340–7.

3. Balon R, Fava GA, Rickels K. Need for a realistic appraisal of benzodiazepines. *World Psychiatry* 2015 ;14:243–4.
4. Oakley R, Tharakan B. Vascular hyperpermeability and aging. *Aging Dis* 2014;5:114–25.
5. Stewart SA. The effects of benzodiazepines on cognition. *J Clin Psychiatry* 2005;66 (Suppl 2):9–13.
6. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM, et al. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. *Arch Intern Med* 2009;169:1952–60.
7. Ungar A, Rafanelli M, Iacomelli I, Brunetti MA, Ceccofiglio A, Tesi F, et al. Fall prevention in the elderly. *Clin Cases Miner Bone Metab* 2013;10:91–5.
8. Huang AR, Mallet L, Rochefort CM, Egualé T, Buckeridge DL, Tamblyn R. Medication-related falls in the elderly: causative factors and preventive strategies. *Drugs Aging* 2012;29:359–76.
9. Gueye PN, Lofaso F, Borron SW, Mellerio F, Vicaut E, Harf A, et al. Mechanism of respiratory insufficiency in pure or mixed drug-induced coma involving benzodiazepines. *J Toxicol Clin Toxicol* 2002;40:35–47.
10. Kamijo Y, Hayashi I, Nishikawa T, Yoshimura K, Soma K. Pharmacokinetics of the active metabolites of ethyl loflazepate in elderly patients who died of asphyxia associated with benzodiazepine-related toxicity. *J Anal Toxicol* 2005;29:140–4.
11. Guilleminault C. Benzodiazepines, breathing, and sleep. *Am J Med* 1990;88:25S – 28S.

© 2015 by the authors; licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions defined by MDPI AG, the publisher of the Sciforum.net platform. Sciforum papers authors the copyright to their scholarly works. Hence, by submitting a paper to this conference, you retain the copyright, but you grant MDPI AG the non-exclusive and unrevocable license right to publish this paper online on the Sciforum.net platform. This means you can easily submit your paper to any scientific journal at a later stage and transfer the copyright to its publisher (if required by that publisher). (<http://sciforum.net/about>).