Do We Use Well Benzodiazepines in Elderly? a Case Report

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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 to 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 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**

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 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.

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Table 1. Situation before pharmaceutical intervention

<table>
<thead>
<tr>
<th>Health problem</th>
<th>Drug</th>
<th>Unit dose</th>
<th>Prescription</th>
<th>Total Daily dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety-depressive syndrome</td>
<td>Mirtazapine</td>
<td>30 mg</td>
<td>0-0-1</td>
<td>30 mg</td>
</tr>
<tr>
<td>Anxiety-depressive syndrome</td>
<td>Escitalopram</td>
<td>15 mg</td>
<td>1-0-0</td>
<td>15 mg</td>
</tr>
<tr>
<td>Anxiety-depressive syndrome</td>
<td>Ketazolam</td>
<td>30 mg</td>
<td>0-0-1</td>
<td>30 mg</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Lorazepam</td>
<td>1 mg</td>
<td>2-1-2</td>
<td>5 mg</td>
</tr>
<tr>
<td>Prostatic syndrome</td>
<td>Dutasteride</td>
<td>0.5 mg</td>
<td>1-0-0</td>
<td>0.5 mg</td>
</tr>
<tr>
<td>Gastric dyspepsia</td>
<td>Omeprazole</td>
<td>20 mg</td>
<td>1-0-0</td>
<td>20 mg</td>
</tr>
</tbody>
</table>

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