Developing an Algorithm for Tapering Benzodiazepines in Patients Using Pain Management Therapy

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BACKGROUND

- Tapering of benzodiazepines has been a widely studied topic.
- The main issue of ambiguity is the rate at which patients should be tapered.
- Philosophies of pain management have evolved in the past 20 years, yet there is little if any new research on shifting patterns of use, utility, outcomes beyond the 1990s.

OBJECTIVES

(1) Develop an algorithm for tapering benzodiazepines used in conjunction with pain management therapy
(2) Provide a comprehensive overview of the published peer-reviewed literature related to tapering strategies for benzodiazepines used in conjunction with pain management

METHODS

- PubMed, Ovid, Google Scholar and Cochrane Library were searched for articles from January 2000 to January 2013.
- Key words used were benzodiazepines, pain management, taper, tapering, detoxification, detox, dependence, withdrawal and weaning.
- Articles were summarized in a table based upon year of publication, author, title, study design, methods, findings and source.

RESULTS

1. There were 21 articles included in this review.
2. The proposed schedule for the taper is over a period of weeks to months (ranging from four weeks to four months), with the option of extending the taper if the patient experiences significant withdrawal effects.
3. Replacing the benzodiazepine with diazepam was favored, due to its long half-life and availability as a liquid preparation.
4. The long half-life is beneficial in stabilizing the patient due to the minimization potential euphoria from the medication. The liquid preparation also helps with the smaller dose administration.
5. For the majority of studies reviewed, the end goal was to have the patient stop taking a benzodiazepine altogether.
6. This endpoint may not be feasible in patients on particularly high doses, in which case, maintenance on a low dose was considered optimal. Medications deemed to be most beneficial in managing benzodiazepine withdrawal were antidepressants and mood stabilizers.
7. The equivalencies of the medications were also disputed among clinicians, with some leaning more toward clinical evidence and others more toward pharmacology.

DECISION FRAMEWORK

1. Is the dose scheduled at fixed intervals?
   - Yes – See question two
   - No – Consider tapering PRN medication to a fixed dose schedule.
2. Is the patient on a supra-therapeutic dose (0.5-1g diazepam equivalent)?
   - Yes – Refer the patient to an inpatient setting for treatment, then see question three
   - No – See question four
3. Patient history of seizures and/or panic disorder?
   - Yes – Consider gradually switching the patient to a benzodiazepine with a long half-life (e.g., diazepam)
   - No – See question five
4. Is the patient on a benzodiazepine with a short half-life?
   - Yes – Begin taper with behavioral and cognitive support and pharmacological adjuvants as needed
   - No – Consider tapering PRN medication to a fixed dose schedule
5. Is the patient stable on fixed interval therapy?
   - Yes – See question six
   - No – Consider inpatient setting for patients that are unable to tolerate fixed interval therapy, are uncooperative or non-compliant.

CONCLUSIONS

- Although there is little consensus on the taper rate for benzodiazepines, there is an emphasis on making the taper individualized to the patient based on several factors to include psychosocial interventions.
- Patients undergoing pain therapy are often highly monitored due to their concomitant use of opioids and other pain management medications.
- Multiple tables are available suggesting approximate equianalgesic doses. The expanded ranges presented are noted in part where different disease pathology is addressed with the same drug (i.e., addressing anxiety vs. sedation).

Equivalency Dosing Table

<table>
<thead>
<tr>
<th>Drug</th>
<th>Time to peak onset (hrs)</th>
<th>Half-life (hrs)</th>
<th>Approximate Equivalent Oral Dose (in mgs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alprazolam</td>
<td>1-2</td>
<td>6-12</td>
<td>0.5</td>
</tr>
<tr>
<td>Chlordiazepoxide</td>
<td>1.5-4</td>
<td>18-50</td>
<td>25</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>1-4</td>
<td>18-50</td>
<td>0.25-0.5</td>
</tr>
<tr>
<td>Diazepam</td>
<td>1-1.5</td>
<td>20-100</td>
<td>10-20</td>
</tr>
<tr>
<td>Flurazepam</td>
<td>1-1.5</td>
<td>40-250</td>
<td>15-50</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>2-4</td>
<td>10-20</td>
<td>15-20</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>3-4</td>
<td>8-22</td>
<td>10-20</td>
</tr>
<tr>
<td>Temazepam</td>
<td>0.5-3</td>
<td>8-22</td>
<td>15-20</td>
</tr>
<tr>
<td>Triazolam</td>
<td>0.5-2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

EXAMPLE TAPER TABLE

Diazepam 5 mg q.12h. 2mg tabs, 5mg tabs, 10mg tabs, 1mg/ml oral solution

Formulation AM PM Daily dose

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REFERENCES