Beyond Haloperidol and Lorazepam: Psychopharmacology in the Emergency Department

Sejal B. Shah, MD
Director, Psychiatry Consultation Service
Director, Psychosomatic Medicine Fellowship
Brigham and Women’s Hospital

Disclosures

• With respect to the following presentation, there is no relevant (direct or indirect) financial relationship which could be considered a conflict of interest

• Off-label uses of medications will be identified during the presentation
Overview

- Introduction
- Etiologies of Agitation
- Behavioral Interventions
- Pharmacologic Interventions
- Algorithm of Agitation Treatment
- Newer Research
- Conclusions

Introduction

"Did you get prior authorization before you became ill?"
Etiologies of Agitation

- Delirium/Encephalopathy
- Toxidrome: Intoxication/Withdrawal
- Neurocognitive Disorder
- Psychiatric Illness
- Other
- Undifferentiated

Behavioral Interventions

- Verbal, non-coercive de-escalation
- Decrease stimuli
- Negotiation
- “Show of force”
Pharmacologic Interventions: Routes of Administration

Pharmacologic Interventions: First-Generation Antipsychotics
- Chlorpromazine
- Haloperidol
- Droperidol
Pharmacologic Interventions: Second-Generation Antipsychotics

- Olanzapine
- Ziprasidone
- Aripiprazole
- Risperidone
- Quetiapine

Pharmacologic Interventions: Benzodiazepines

- Lorazepam
- Diazepam
- Clonazepam
- Midazolam
Table of Recommended Medications

<table>
<thead>
<tr>
<th>Oral medication</th>
<th>Initial dose, mg</th>
<th>Time*</th>
<th>Can repeat*</th>
<th>Maximum dose (per 24 hours), mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risperidone</td>
<td>2</td>
<td>1 h</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>5-10</td>
<td>6 h</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>5</td>
<td>30-60</td>
<td>15 min</td>
<td>20</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>2</td>
<td>20-30</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Intramuscular medication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>10-20</td>
<td>15</td>
<td>15 mg q 2 h</td>
<td>40</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>10</td>
<td>15-45</td>
<td>20 min</td>
<td>30</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>1.5</td>
<td>1 h</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>5</td>
<td>30-60</td>
<td>15 min</td>
<td>20</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>2</td>
<td>20-30</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Intravenous medication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloperidol</td>
<td>2-5</td>
<td>Immediate</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

* q 2 h, every 2 hours; q 4 h, every 4 hours.
*1 Values are expressed as minutes unless otherwise indicated.
*2 Values are expressed as hours unless otherwise indicated.
*3 Use with caution when used with other CNS depressants or other medications with anticholinergic effect.
*4 Haloperidol can cause QT prolongation and should be used with caution in patients with possible QT prolongation.


Chemical agents for the sedation of agitated patients in the ED: a systematic review**,**

Viola Korczalk, MD, MIPH *, Adrienne Kirby, MS *, Naren Gunja, MD, MS **,**
Etiologies of Agitation: Pharmacologic Recommendations

- Delirium/Encephalopathy
- Toxidrome/Intoxication
- Neurocognitive Disorder
- Psychiatric Illness

Pharmacologic Treatment Algorithm

Ketamine

Ketamine as a first-line treatment for severely agitated emergency department patients

Jeff Riddell, Alexander Tran, Simon Bengiamin, Gregory W. Hendey, Patil Armenian
Dexmedetomidine

- Selective $\alpha_2$ receptor agonist
- Rare respiratory depression
- Side effects: mild hypotension and bradycardia
- Sedation; no treatment

Conclusions

- Many etiologies of agitation
- Behavioral interventions first
- Pharmacologic Interventions: Think etiology!
  - Intoxication/Withdrawal: antipsychotics/benzodiazepines
  - Psychosis: antipsychotics OR combination of antipsychotics/benzodiazepines
  - Delirium: avoid benzodiazepines
  - Undifferentiated: benzodiazepines
  - Use lowest dose possible
sshah@bwh.harvard.edu