5.6: Antihistamines

Diphenhydramine is an example of a first-generation antihistamine. (See Figures 5.7[1] and 5.8.[2]) Second-generation antihistamines were developed to have fewer side effects. An example of a second-generation antihistamine is cetirizine.

Figure 5.7 Diphenhydramine is a first generation antihistamine that is available orally or as an IV medication.
5.8 Diphenhydramine HCl preparation, single dose vial for IV administration

**Mechanism of Action**

Antihistamines have the following mechanisms of action: blocks histamine at H1 receptors; inhibits smooth muscle constriction in blood vessels and the respiratory and GI tracts; and decreases capillary permeability, salivation, and tear formation.

**Indications for Use**

Antihistamines are used for relief of allergy or cold symptoms.

**Nursing Considerations Across the Lifespan**

This medication is not safe for children under the age of 2 years without a healthcare provider’s order.

**Adverse/Side Effects**

First-generation medications can cause anticholinergic effects (such as dry mouth, urinary retention, constipation and blurred vision). CNS depression or CNS stimulation with excessive doses can occur, especially in children. Therefore, first-generation antihistamines should be used with caution in the elderly.

Second-generation medications may cause headache, nausea, vomiting, dysmenorrhea, and fatigue. [3]

**Patient Teaching & Education**

Patients should be advised that antihistamines may cause drowsiness, and concurrent use of alcohol or other CNS...
depressants should be avoided. Patients should take only the recommended amount of medication and not to exceed dosing recommendations. Some patients may experience side effects such as dry mouth, and frequent oral hygiene may assist in alleviating discomfort.\textsuperscript{[4]}

Now let’s take a closer look at the medication grid for diphenhydramine and cetirizine in Table 5.6.\textsuperscript{[5],[6],[7]} Medication grids are intended to assist students to learn key points about each medication class. Basic information related to a common generic medication in this class is outlined, including administration considerations, therapeutic effects, and side effects/adverse effects. Prototype/generic medication listed in the medication grid is also hyperlinked to a free resource from the U.S. National Library of Medicine called Daily Med. Because information about medication is constantly changing, nurses should always consult evidence-based resources to review current recommendations before administering specific medication.

Table 5:6 Diphenhydramine and Cetirizine Medication Grid

<table>
<thead>
<tr>
<th>Class/Subclass</th>
<th>Prototype/Generic</th>
<th>Administration Considerations</th>
<th>Therapeutic Effects</th>
<th>Adverse/Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-generation antihistamine</td>
<td>diphenhydramine</td>
<td>Take as directed, Avoid allergens, Avoid alcohol or CNS depressants due to sedation</td>
<td>Temporarily relieves symptoms due to hay fever or other upper respiratory allergies: runny nose; sneezing; itchy, watery eyes; itching of the nose or throat</td>
<td>Sedation, Anticholinergic effects, Gastrointestinal: Nausea/ Vomiting, Paradoxical effect: excitation in children</td>
</tr>
<tr>
<td>Second-generation antihistamine</td>
<td>cetirizine</td>
<td>Take as directed, Avoid allergens, Avoid alcohol or CNS depressants due to sedation</td>
<td>Temporarily relieves symptoms due to hay fever or other upper respiratory allergies: runny nose; sneezing; itchy, watery eyes; itching of the nose or throat</td>
<td>Non-sedating, Anticholinergic effects, Gastrointestinal: Nausea/ vomiting, Paradoxical effect: excitation in children</td>
</tr>
</tbody>
</table>