4.11: Beta-1 Agonists

Dobutamine is a Beta-1 agonist.

**Mechanism of Action:** Dobutamine stimulates Beta-1 receptors to increase heart rate, force of contraction, and conduction velocity.

**Indications:** Dobutamine is used to treat cardiogenic shock and severe heart failure to increase contractility and cardiac output.

**Nursing Considerations:** In IV administration, dilute concentration before administering. Continuously monitor electrocardiogram (ECG), blood pressure, cardiac output, and urine output during therapy. This drug can cause a marked increase in heart rate and blood pressure. Report all adverse reactions promptly, especially labored breathing, angina, palpitations, and dizziness.

**Patient Teaching & Education:** The patient should be instructed to inform the nurse immediately if they notice chest pain, shortness of breath, or numbness or tingling in the extremities.\(^1\)

Now let’s take a closer look at the dobutamine medication grid in Table 4.11.\(^2\)

<table>
<thead>
<tr>
<th>Class/Subclass</th>
<th>Prototype/Generic</th>
<th>Administration Considerations</th>
<th>Therapeutic Effects</th>
<th>Side/Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-1 agonist</td>
<td>dobutamine</td>
<td>Continuously monitor ECG, blood pressure,</td>
<td>Increases heart rate, force of heart contraction, and</td>
<td>Marked increase in heart rate and blood pressure</td>
</tr>
</tbody>
</table>

\(^1\)https://med.libretexts.org/Bookshelves/Nursing/Nursing_Pharmacology_(OpenRN)/04%3A_Autonomic_Nervous_System/4.11…
\(^2\)Updated: Sun, 25 Sep 2022 13:54:52 GMT
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cardiac output, and urine output during therapy
speed of conduction between SA to AV nodes

Report all adverse reactions promptly, especially labored breathing, angina, palpitations, and dizziness

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