Chapter 4

Section 4.16 Lightbulb Moment

1. A potential side effect of nicotine is the activation of the sympathetic nervous system that causes an increased heart rate. Nausea and weakness are potential side effects that can indicate nicotine overdose. The nurse should provide education to the patient regarding the avoidance of additional nicotine when using the nicotine patch. It may also be helpful to remove the patch at bedtime and reapply a new patch in the morning.

You can review additional information about nicotine administration in the “Nicotine” section.

2.a. The nurse should explain to the patient that tamsulosin relaxes muscles in the bladder and prostate to improve urine flow.

2.b. The nurse should monitor for hypotension and tachycardia, especially after administering the first dose of medication. The nurse should also advise the patient to change positions slowly in order to prevent falls that can occur due to hypotension.

You can review additional information about tamsulosin in the “Alpha-1 Antagonists” section.

3.a. Albuterol stimulates Beta-2 agonist receptors in the smooth muscle of bronchi and bronchioles to produce bronchodilation to ease the work of breathing.

3.b. Beta-1 receptors can also be inadvertently stimulated by albuterol and causes the side effect of tachycardia.

3.c. The nurse should educate the patient to take the medication as prescribed and avoid caffeine or other stimulants.
that can cause tachycardia.

You can review additional information about albuterol in the “Beta-2 Agonists” section.

4.a. Propranolol is a nonselective beta-blocker and inhibits both Beta-1 and Beta-2 receptors. Inhibiting Beta-1 receptors will decrease the heart rate and reduce the force of the heart’s contraction, which will lower the patient’s blood pressure.

4.b. Before administering propranolol, the nurse should always assess the patient’s blood pressure and apical pulse. If the systolic blood pressure is less than 100 mm Hg or the apical heart rate is less than 60 beats per minute, the medication should be withheld and the provider notified unless other parameters are provided in the order.

4.c. Propranolol can inadvertently cause bronchoconstriction because it inhibits Beta-2 receptors in addition to Beta-1 receptors. Bronchoconstriction causes wheezing.

4.d. When a nurse notices new wheezing, a focused respiratory assessment should be performed including assessing the patient’s airway, respiratory rate, and oxygenation status. Depending on the urgency of the assessment findings, the nurse should also check the patient’s medical record for a history of asthma or chronic obstructive pulmonary disease (COPD) and immediately notify the provider.

You can review additional information about propranolol in the “Beta-2 Antagonists” section.

5.a. Before administering metoprolol, the nurse should always assess the patient’s blood pressure and pulse.

5.b. If the systolic blood pressure is less than 100 mm Hg or the apical heart rate is less than 60 beats per minute, the medication should be withheld and the provider notified unless other parameters are provided in the order.

5.c. A new finding of edema can indicate that the adverse effect of worsening heart failure is occurring.

5.d. The nurse should assess the patient for additional signs of worsening heart failure, such as fine crackles in the lungs and recent weight gain, and notify the provider regarding this change in patient condition.

You can review additional information about metoprolol in the “Beta-1 Antagonists” section.

6.a. Dobutamine is a catecholamine and it will increase heart rate, the force of heart contraction, and speed of conduction between the SA to AV nodes. These actions will help to improve cardiac output for a patient experiencing an acute episode of heart failure.

6.b. During administration of dobutamine, the nurse should continuously monitor the patient’s heart rate, blood pressure, ECG, cardiac output, and urine output. Increased urine output will demonstrate the effectiveness of the medication in perfusing the kidneys.

You can review additional information about dobutamine in the “Alpha and Beta Receptor Agonists (Catecholamines)” section.