Module 11: Urological Disorders

EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants will be better able to:

- Discuss the epidemiology and pathophysiology of common urologic disorders
- Explain the basic approach to treatment for common urologic disorders
- Discuss appropriate monitoring parameters for urologic medications discussed in this module
- Demonstrate effective patient counseling skills for patients with a urologic disorder discussed in this module

Post-Test/Rationale

1. Myalgias and back pain are most common with which drug used for treatment of erectile dysfunction?
   - A. sildenafil
   - B. tadalafil
   - C. vardenafil
   - D. alprostadil

Correct answer: B

Myalgias and back pain may be experienced with tadalafil use. Visual disturbances (blurred/blue vision) may be more common with sildenafil and vardenafil use. Intraurethral alprostadil is associated more with local pain or burning and minor bleeding while intracavernous alprostadil is associated with pain at the injection site, hematoma, and penile fibrosis.

2. Which of the following is an absolute contraindication to use of phosphodiesterase-5 inhibitors?
   - A. cytochrome P4503A4 inhibitors
   - B. diuretics
   - C. nitrates/nitrites
   - D. antipsychotic agents

Correct answer: C

Concomitant nitrate/nitrite use is an absolute contraindication to the use of all PDE-5 inhibitors. All other answers are not absolute contraindications to use for all PDE-5 inhibitors.

3. How long does it take for 5α-reductase inhibitors to exhibit a therapeutic effect in BPH?
   - A. immediately
   - B. 1 to 2 weeks
   - C. 1 to 2 months
   - D. 3 to 6 months

Correct answer: D
For the 5α-reductase inhibitors, therapeutic effects may not occur until after 3 to 6 months of treatment (sometimes even up to 12 months of therapy). The time periods for all other answers are too short for a therapeutic effect to be observed.

4. Which of the following α1-receptor antagonists requires dose titration to minimize adverse effects?
   A. alfuzosin
   B. silodosin
   C. tamsulosin
   D. terazosin***

Correct answer: D
For the α1-receptor antagonists, both doxazosin and terazosin require dose titration in order to minimize orthostatic hypotension, dizziness, asthenia, dry mouth, and nasal congestion. Tamsulosin and silodosin are selective for the α1a receptor subtypes, so they may have less vascular adverse effects than the other agents in this class. Alfuzosin is an extended release formulation and therefore may also have less vascular adverse effects.

5. True/False. Intraurethral suppositories are more effective than intracavernous injections for erectile dysfunction.
   A. True
   B. False***

Correct answer: B
Intracavernous injection therapy is more effective than intraurethral suppositories for erectile dysfunction. In fact, the efficacy of intraurethral alprostadil in post-marketing studies was not as great as was seen in clinical trials that compared it to placebo and it may be most effective when used in combination with a PDE5 inhibitor or vacuum constriction device.

6. Which of the following drugs does NOT have to be dose-adjusted for concomitant use with cytochrome P4503A4 inhibitors?
   A. sildenafil
   B. tadalafil
   C. darifenacin
   D. oxybutynin***

Correct answer: D
If given with a potent CYP3A4 inhibitor, the maximum dose of sildenafil is 25 mg once daily (every 48 hours if used with ritonavir). For tadalafil, the maximum dose is 10 mg, not to exceed every 72 hours for as needed use, and 2.5 mg daily for once daily use. If darifenacin is given with CYP3A4 inhibitors, the patient should not exceed 7.5 mg daily. Oxybutynin is the only drug on this list which does not require a dose adjustment with concurrent CYP3A4 inhibitors.
7. Which of the following is NOT a goal of therapy in benign prostatic hyperplasia?
   A. relieve lower urinary tract symptoms
   B. decrease bladder outlet obstruction
   C. improve bladder emptying
   D. prevent disease progression to prostate cancer

Correct answer: D

Goals of therapy in benign prostatic hyperplasia include relieving lower urinary tract symptoms, decreasing bladder outlet obstruction, and improving bladder emptying. Although preventing benign prostatic hyperplasia progression is also a goal of therapy, treatment of this disease does NOT prevent progression to prostate cancer.

8. Which of the following disease states does NOT have any Food and Drug Administration-approved drugs for treatment?
   A. benign prostatic hyperplasia
   B. stress urinary incontinence
   C. urge urinary incontinence
   D. erectile dysfunction or neurogenic etiology

Correct answer: B

Of the disease states listed, the only one without any FDA-approved drugs for treatment is stress urinary incontinence. Agents that are commonly used for stress urinary incontinence include duloxetine, α-receptor agonists, topical estrogen in women with vaginitis, and imipramine.

9. Which of the following is NOT a risk factor for erectile dysfunction?
   A. diabetes
   B. obesity
   C. cigarette smoking
   D. chronic obstructive pulmonary disease

Correct answer: D

Risk factors for erectile dysfunction include increased age, diabetes, cardiovascular disease, cigarette and cigar smoking, obesity, medications, and hormonal factors. Chronic obstructive pulmonary disease is not a risk factor for erectile dysfunction.

10. Which of the following drugs is LEAST likely to contribute to erectile dysfunction?
    A. enalapril
    B. hydrochlorothiazide
    C. atorvastatin
    D. fluoxetine

Correct answer: A

Diuretics (such as hydrochlorothiazide), HMG-CoA reductase inhibitors (such as atorvastatin), and antidepressants (such as fluoxetine) are medications that are commonly implicated in erectile dysfunction. Of the drugs listed, enalapril is least likely to contribute to erectile dysfunction.