

Issues with Common Urologic Medications: Review Questions

Sean M. Doyle, MD

Maxwell Meng, MD

QUESTIONS

Choose the single best answer for each question.

- A 65-year-old man presents to his primary care physician for follow-up 1 month after starting tamsulosin for lower urinary tract symptoms related to benign prostatic hyperplasia. The patient's symptoms have improved, but he is concerned that, although he continues to have the sensation of orgasm during intercourse, he no longer ejaculates. Which of the following is the most appropriate response to this patient's concern?

 - Discontinue tamsulosin immediately
 - Explain that this is a common side effect and ejaculatory volume will slowly improve with continued therapy
 - Explain that ejaculatory volume will significantly improve by changing the medication dosing from once daily to once every other day
 - Explain that this is a common side effect but ejaculatory volume will not likely change with continued therapy
- α -Adrenergic antagonists have been shown to increase complications during which of the following procedures?

 - Cardiac pacemaker implantation
 - Cataract surgery
 - Coronary artery stent placement
 - Transurethral resection of the prostate
 - Vasectomy
- A 57-year-old man with a history of a congenital prolonged QTc interval presents to his primary care physician complaining of erectile dysfunction (ED). The patient recently had a negative stress echocardiogram and is able to run 4 miles 3 times a week. Which of the following drugs should not be recommended to this patient?

 - Sildenafil
 - Tadalafil
 - Vardenafil
 - All of the above
- A 58-year-old man with a history of hypertension, diabetes, and ED presents to his primary care physician reporting 2 episodes of blue vision that lasted 1 hour after taking sildenafil. The visual disturbances resolved spontaneously, and he had no change in visual acuity. The patient reports satisfaction with erectile function while taking sildenafil. Of the following, which is the most appropriate recommendation?

 - Discontinue sildenafil immediately and refer to an ophthalmologist
 - Discontinue sildenafil immediately and try a different phosphodiesterase (PDE)-5 inhibitor
 - Changes in vision are self-limited; continue sildenafil or switch to a different PDE-5 inhibitor
 - Discontinue sildenafil immediately and avoid the use of other PDE-5 inhibitors
- A 58-year-old man with a history of hypertension, diabetes, and ED reports 2 episodes of visual field loss in the right eye after taking sildenafil. The visual disturbances resolved spontaneously on both occasions. The patient reports satisfaction with erectile function while taking sildenafil. Which of the following is the most appropriate recommendation?

 - Discontinue sildenafil and all other PDE-5 inhibitors immediately and refer to an ophthalmologist
 - Discontinue sildenafil immediately and try a different PDE-5 inhibitor

Dr. Doyle is a resident, and Dr. Meng is an associate professor; both are at the Department of Urology, University of California San Francisco, San Francisco, CA.

- (C) Changes in vision are self-limited; continue sildenafil or switch to a different PDE-5 inhibitor
- (D) Decrease the dose of sildenafil

6. There are specific precautions regarding the use of PDE-5 inhibitors in all of the following cases EXCEPT

- (A) A 50-year-old man with retinitis pigmentosa
- (B) A 55-year-old man with sickle cell anemia and remote history of priapism
- (C) A 63-year-old man with a history of myocardial infarction 5 months ago
- (D) A 70-year-old man with New York Heart Association class II heart failure
- (E) A 72-year-old man with a history of stroke 60 days ago

7. A 63-year-old man with a history of urinary retention returns to his primary care physician after initiation of combination therapy with terazosin and finasteride 18 months ago. His urinary stream has significantly improved. On digital rectal examination, the prostate is enlarged with no nodules or induration. The patient has undergone yearly prostate-specific antigen (PSA) screening since age 50 years. PSA values 1 and 2 years prior were 2.5 and 3.2 ng/mL, respectively. His serum PSA level at presentation is 2.8 ng/mL. How should this patient be managed?

- (A) Continue with current therapy and follow-up in 3 months
- (B) Perform prostate magnetic resonance imaging (MRI)
- (C) Perform a repeat PSA test in 1 year
- (D) Recommend a prostate biopsy

8. An 88-year-old man with a history of prostate cancer presents to his primary care physician complaining of right hip pain. He was started on androgen deprivation therapy with leuprolide monotherapy 2 weeks ago. A bone scan performed 1 month ago revealed radiographic evidence of metastasis to his right femoral head. A plain radiograph and MRI of his right hip are negative for fracture. Which of the following medications could have been given prior to leuprolide therapy to prevent this patient's hip pain?

- (A) Calcium
- (B) Finasteride
- (C) Flutamide
- (D) Zoledronic acid

ANSWERS AND EXPLANATIONS

- 1. (D) Explain that this is a common side effect but ejaculatory volume will not likely change with continued therapy.** α -Adrenergic antagonists are predominantly used in the treatment of benign prostatic hyperplasia. Tamsulosin, a selective α_{1A} -adrenoreceptor antagonist, is associated with retrograde ejaculation in approximately 5% to 10% of patients. This side effect is reversible when therapy is stopped. Although this is a benign condition, the effect is not self-limited and ejaculatory volume will remain low throughout treatment. Patients should be counseled about potential side effects before initiating treatment. There is some evidence that intermittent (once every other day) dosing may improve retrograde ejaculation in patients who report no change in their ejaculatory volume.¹ This improvement, however, was not found in patients with low volume or absent ejaculate.
- 2. (B) Cataract surgery.** Intraoperative floppy iris syndrome (IFIS) has been associated with the use of α -adrenergic antagonists. Development of IFIS significantly increases the rate of complications during phacoemulsification cataract surgery and has been reported in patients who discontinued α -adrenergic antagonists several months before surgery. Although tamsulosin is often associated with development of IFIS, other α -adrenergic antagonists have been implicated.² This class of drugs should be avoided in patients who may undergo this procedure.
- 3. (C) Vardenafil.** Vardenafil is a PDE-5 inhibitor that is commonly used in the treatment of ED. Vardenafil has a side effect profile similar to sildenafil and tadalafil, but it is the only PDE-5 inhibitor not recommended in patients with cardiac conduction abnormalities.
- 4. (C) Changes in vision are self-limited; continue sildenafil or switch to a different PDE-5 inhibitor.** Sildenafil has a strong affinity for the PDE-5 enzyme but a weaker affinity for the PDE-6 enzyme. The PDE-6 enzyme is found in rod and cone photoreceptors, and the resultant increase in cyclic guanosine monophosphate in these cells can cause moderate transient visual symptoms, such as photosensitivity, bluish hues, and blurred vision. Unless the patient cannot tolerate symptoms, a change in medication is not necessary. Switching to vardenafil or tadalafil may cause less visual disturbances. Discontinuing sildenafil and referral to an ophthalmologist are not necessary in this case.

5. (A) **Discontinue sildenafil and all other PDE-5 inhibitors immediately and refer to an ophthalmologist.** In contrast to the previous case, this patient may have nonarteritic anterior ischemic optic neuropathy (NAION). NAION is thought to result from decreased blood flow through small arteries supplying the optic nerve. The visual field deficits may be temporary or permanent. Despite controversy over the association of NAION and the use of PDE-5 inhibitors, the temporal association between use of the medication and clinical symptoms should raise significant concern. The patient should be strongly advised to discontinue the PDE-5 inhibitor and should be referred for urgent ophthalmologic evaluation.

6. (C) **A 63-year-old man with a history of myocardial infarction 5 months ago.** Current recommendations include warnings against the use of PDE-5 inhibitors in patients with a myocardial infarction within the last 90 days but do not specifically warn against use after this period. There are specific precautions against use of PDE-5 inhibitors for the other scenarios. Patients taking nitrates should also avoid using PDE-5 inhibitors.

7. (D) **Recommend a prostate biopsy.** This patient was started on finasteride therapy 18 months prior. Finasteride typically reduces the serum PSA level by ap-

proximately half. Using corrected PSA measurements (ie, doubling PSA level while on finasteride therapy), this patient's current corrected PSA level is 5.6 ng/mL, with a PSA velocity of 1.2 ng/mL per year over the last 3 years. Given these measurements, prostate biopsy is recommended. MRI of the prostate can suggest the location and extent of a tumor; however, biopsy is needed for pathologic diagnosis.

8. (C) **Flutamide.** Leuprolide is a luteinizing hormone-releasing hormone (LHRH) agonist used as androgen deprivation therapy in patients with advanced prostate cancer. Initiation of LHRH agonists causes an initial "flare" phenomenon of elevated testosterone and luteinizing hormone that manifests clinically as an increase in disease-related symptoms, such as bone pain, urinary obstruction, or cord compression. Coadministration of antiandrogens such as flutamide prior to initiating LHRH agonists blocks the effect of the initial hormonal elevation. As castrate levels of testosterone are predictably reached within the first several weeks of therapy, antiandrogens are only required for the first 21 to 28 days of LHRH treatment to prevent the flare phenomenon.

REFERENCES

1. Goktas S, Kibar Y, Kilic S, et al. Recovery of abnormal ejaculation by intermittent tamsulosin treatment. *J Urol* 2006;175:650-3.
2. Takmaz T, Can I. Intraoperative floppy-iris syndrome: do we know everything about it? *J Cataract Refract Surg* 2007;33:1110-2.

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UROLOGY

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