

Prostate Cancer: Review Questions

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QUESTIONS

Choose the single best answer for each question.

- 1. A 62-year-old man presents with urinary urgency and frequency. Physical examination reveals a 1-cm, hard, right-sided prostate nodule. His serum prostate-specific antigen (PSA) level is 14 ng/mL. The best next step in managing this patient is to:**

 - Repeat the PSA test in 3 months
 - Discuss potential treatment options with the patient
 - Obtain a transrectal ultrasound and, whether the results are abnormal or not, proceed with prostate needle biopsy
 - Begin hormone therapy with leuprolide
 - Begin treatment with terazosin and schedule a 3-month follow-up appointment
- 2. Routine PSA testing in a 66-year-old otherwise healthy man reveals an increase from 3 to 7.7 ng/mL within 1 year. Biopsies demonstrate Gleason grade 3 + 3 adenocarcinoma in one of six needle cores. Treatment options for this patient include all of the following EXCEPT:**

 - Radical retropubic prostatectomy
 - Radical perineal prostatectomy
 - Three-dimensional conformal radiotherapy
 - Brachytherapy
 - Laparoscopic pelvic lymphadenectomy
- 3. A 72-year-old man with a history of localized prostate cancer presents to his physician with pain in his ribs. He underwent a radical prostatectomy 4 years earlier but was subsequently lost to follow-up. A bone scan demonstrates diffuse skeletal metastases; the patient's serum PSA level is 97 ng/mL. The best next step in managing this patient is to:**

 - Treat with strontium-89 to relieve the patient's pain
 - Perform a rib biopsy to rule out other malignancies
 - Perform an orchiectomy
 - Treat with flutamide alone
 - Perform a needle biopsy of the prostatectomy site to confirm recurrent disease
- 4. A 62-year-old man with metastatic prostate cancer has a rising PSA level despite treatment with leuprolide and flutamide. What should be the first step in managing this asymptomatic man with hormone-refractory disease?**

 - Treat with aminoglutethimide
 - Discontinue flutamide to attempt to obtain an antiandrogen withdrawal response
 - Discontinue leuprolide
 - Treat with diethylstilbestrol
 - Perform an orchiectomy
- 5. A 52-year-old man with diffuse bone pain from metastatic androgen-independent prostate cancer has not responded to secondary hormone treatments. All of the following are reasonable treatment options EXCEPT:**

 - Estramustine and mitoxantrone
 - Mitoxantrone and corticosteroids
 - Strontium-89
 - Narcotic analgesics
 - Estramustine and vinblastine
- 6. Which of the following has NOT been associated with prostate cancer risk?**

 - Advanced age
 - African-American race
 - High-fat diet
 - An androgen-receptor germline polymorphism
 - Ionizing radiation

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EXPLANATION OF ANSWERS

1. **(C) Obtain a transrectal ultrasound and, whether the results are abnormal or not, proceed with prostate needle biopsy.** This patient presents with urinary obstructive symptoms, a suspicious prostate nodule, and an elevated PSA level—all signs that point to a diagnosis of cancer. However, before discussing or implementing treatment, a histologic diagnosis should be made and subsequent staging performed. It is not appropriate to delay definitive diagnosis with follow-up PSA testing or to attempt treatment of benign prostatic hyperplasia.
2. **(E) Laparoscopic pelvic lymphadenectomy.** This patient's PSA level doubled in less than 1 year. This rate of increase, or PSA velocity, is significantly associated with the presence of cancer. Laparoscopic pelvic lymphadenectomy is a staging procedure employed before initiating definitive therapy (eg, prostatectomy or radiotherapy). With accurate staging via PSA testing and computed tomography scanning, the role of routine staging lymphadenectomy is diminishing.
3. **(C) Perform an orchiectomy.** Recurrent metastatic disease after local therapy (surgery or radiation) is a continuing problem. Most men are asymptomatic and have a rising PSA level before clinical or radiographic findings. This patient presents with unequivocal metastatic disease: pain, widespread osteoblastic metastases, and a highly elevated PSA level. Further biopsies are unnecessary. Treatment with strontium-89, although effective, is toxic and

should be considered only after hormone therapy has failed. Monotherapy with flutamide is associated with poor survival compared with the combination of flutamide and leuprolide.

4. **(B) Discontinue flutamide to attempt to obtain an antiandrogen withdrawal response.** Androgen-independent prostate cancer frequently responds to secondary hormone manipulations. The first maneuver to try in this setting should be antiandrogen withdrawal, which may induce a clinical and/or PSA response in 15% to 29% of cases.¹ Leuprolide should not be discontinued. Diethylstilbestrol and orchiectomy would not be expected to induce further response. Aminoglutethimide could be used after antiandrogen withdrawal has been tried.
5. **(A) Estramustine and mitoxantrone.** Although used individually for treatment of metastatic prostate cancer, the combination of estramustine and mitoxantrone has not been tested for safety and efficacy in treating metastatic prostate cancer.
6. **(E) Ionizing radiation.** No studies have linked ionizing radiation with risk of developing prostate cancer.

REFERENCE

1. Small EJ, Vogelsang NJ: Second-line hormonal therapy for advanced prostate cancer: a shifting paradigm. *J Clin Oncol* 1997;15:382-388.

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