
POST-TEST FOR CME

Thank you for participating in this CME activity. In order to obtain 16.0 *AMA PRA Category 1 Credits™* you must:

- 1) Read the learning objectives;
- 2) Read the articles and study the tables and figures in this supplement;
- 3) Register and complete this post-test online;
- 4) Complete the application for CME credit and the activity evaluation form online.

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Time to Complete Activity: 16.0 hours

1. Which of the following is the definition of castration resistant prostate cancer (CRPC)?
 - a. Castration resistant prostate cancer is defined by disease progression despite androgen deprivation therapy and requires evidence of new metastases by imaging.
 - b. Castration resistant prostate cancer is defined as disease progression despite androgen deprivation therapy and may present as either a continuous rise in serum PSA levels, the progression of pre-existing disease, and/or the appearance of new metastases.
 - c. Castration resistant prostate cancer is defined by rising PSA prior to androgen deprivation therapy.
 - d. Castration resistant prostate cancer is defined by three rising PSA's with a castrate level of testosterone.
2. A 55-year-old male presents to you after receiving a diagnosis of prostate cancer. His PSA is 4.6 ng/mL, Gleason score 3+3=6 in 3 of 12 cores with 25% involvement of each core. He mentions that he has a strong family history of prostate cancer (brother diagnosed at 62 years old, father and grandfather). He is strongly considering radiation therapy, but also wonders about the role of "hormone treatment" in his case. Which of the following statements BEST describes the utility of androgen deprivation therapy in this patient?
 - a. Androgen deprivation therapy is commonly used as monotherapy in patients with clinically localized prostate cancer.
 - b. Androgen deprivation therapy does have side effects, but it should be reserved for men with metastatic disease only.
 - c. Although androgen deprivation therapy is useful as adjuvant therapy to radiation treatment for prostate cancer, there is little to no benefit in men with low grade disease.
 - d. Neoadjuvant androgen deprivation therapy is superior to adjuvant therapy when considering radiation treatment for prostate cancer.
3. After initiation of degarelix therapy, castrate levels of testosterone are achieved in over 90% of patients within:
 - a. 24 hours.
 - b. 3 days.
 - c. 7 days.
 - d. 28 days.
4. Regarding degarelix, which statement is TRUE:
 - a. Degarelix is a competitive antiandrogen peptide.
 - b. Degarelix competitively blocks the GnRH receptor.
 - c. This agent causes a surge in serum T for up to 28 days after initial administration.
 - d. Co-administration of a non-steroidal anti-androgen is recommended with the initial dose of degarelix.

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5. Which of the following statements BEST describes the significant findings SWOG 9346 clinical (intermittent versus continuous androgen deprivation therapy in metastatic prostate cancer)?
 - a. Intermittent androgen deprivation therapy has demonstrated non-inferior survival in the metastatic setting.
 - b. Health-related quality-of-life scores in the domains of mental health, erectile dysfunction and libido were improved at early time points (3 and 9 months) in patients treated with intermittent androgen deprivation therapy.
 - c. Cardiovascular health outcomes are improved in patients on intermittent androgen deprivation.
 - d. Bone health is improved in patients on intermittent androgen deprivation.
6. A 70-year-old man with metastatic CRPC involving bone presents to the emergency department unable to function at home with fatigue, nausea and vomiting, and anorexia. He is receiving treatment with depot goserelin, hydrocortisone 20 mg po qam and 10 mg po qpm, zoledronic acid 4 mg IV every 3 weeks, and started ketoconazole for rising PSA 2 weeks ago. Routine complete blood count and serum biochemistry are normal except for mild anemia, mild elevation in BUN, and AST 3 x ULN, ALT 4 X ULN. PSA is 78 ng/mL and was 69 ng/mL 2 weeks ago. The most likely explanation is:
 - a. Hepatic metastases due to CRPC progression have developed.
 - b. Hepatic toxicity of ketoconazole.
 - c. Nausea and vomiting due to zoledronic acid therapy.
 - d. Hypoadrenalism secondary to ketoconazole.
7. Bone scans with either technetium-99m labeled phosphonate or fluorine-18 labeled fluoride are useful for:
 - a. Evaluating bone metastases.
 - b. Measuring response to therapy.
 - c. Both a and b.
 - d. Neither a or b.
8. PET/CT with fluorine-18 labeled FDG is useful for:
 - a. Evaluating bone metastases.
 - b. Measuring response to therapy.
 - c. Both a and b.
 - d. Neither a or b.
9. Which of the following is true concerning sipuleucel-T administration?:
 - a. It is contraindicated with visceral metastasis.
 - b. The PSA level must be greater than 10.0 ng/mL before use.
 - c. Premedication with acetaminophen and diphenhydramine will limit adverse reactions.
 - d. It is given subcutaneously weekly for a total of three weeks.
10. What is the process for preparing sipuleucel-T?
 - a. Sipuleucel-T is an autologous immunotherapy that relies on ex-vivo stimulation of dendritic cells by the patients autologous prostate cancer cells.
 - b. Removal and concentration of dendritic cells with re-infusion of the cells along with GM-CSF.
 - c. Stimulation of the patient with IV GM-CSF and PAP antigens with collection of dendritic cells. The cells are concentrated and then reinfused.
 - d. Removal of dendritic cells from a patient and reinfusion after processing and expansion with GM-CSF and PAP constructs.

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11. Abiraterone has been shown to:
 - a. Statistically improve OS in men with non- metastatic CRPC before chemotherapy.
 - b. Statistically improve OS in men with metastatic CRPC after chemotherapy.
 - c. Improve radiographic progression free survival in in patients with lung and liver metastases prior to chemotherapy.
 - d. Improve time to CRPC in patients with biochemical recurrent prostate cancer.
12. Side effects related to the mechanism of action of abiraterone include:
 - a. Decreased cortisol due to adrenal inhibition of CYP17A.
 - b. Decreased DHEA-S due to adrenal inhibition of CYP17A.
 - c. Increased cortisol due to feed back effects of ACTH.
 - d. Decreased aldosterone due to feed back effects of ACTH
13. Patients with prostate cancer experienced a survival benefit of 4.8 months treated with enzalutamide compared to placebo in the AFFIRM trial. These data reflect which patient population?
 - a. Men with mCRPC who have disease progression but were docetaxel naïve.
 - b. Men with mCRPC who had disease progression following sipuleucel-T or abiraterone and prednisone.
 - c. Men with mCRPC who have disease progression following docetaxel.
 - d. Men with CRPC with either biochemical or radiographic disease progression who are docetaxel naïve and asymptomatic.
14. The rates of adverse events in the AFFIRM study were similar between the groups, despite a significantly longer exposure to enzalutamide and reporting time in the enzalutamide cohort compared to placebo. Concerning toxicities which were specific to enzalutamide in this study included which of the following?
 - a. Significant QT prolongation.
 - b. Seizure.
 - c. Hepatotoxicity.
 - d. Metabolic syndrome.
15. What was the improvement in median overall survival for patients receiving radium 223 on the randomized phase III ALSYMPCA trial?
 - a. 1.0 months.
 - b. 3.1 months.
 - c. 3.6 months.
 - d. 4.6 months.
16. The predominant form of decay of radium 223 is in the form of:
 - a. Alpha particle.
 - b. Beta particle.
 - c. Gamma ray.
 - d. Photon particles.

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17. Choose the correct statement concerning cabazitaxel.
- a. It is as effective as docetaxel as first line chemotherapy in CRPC.
 - b. Should be used with prophylactic growth factor support as second line therapy in CRPC.
 - c. Has a 1 month improvement in survival when compared to mitoxantrone/prednisone.
 - d. Is approved by the FDA as first line cytotoxic therapy for CRPC.
18. The use of denosumab (120 mg subcutaneously monthly) or zoledronic acid (4 mg IV monthly) should be discussed in one of these patients only.
- a. Hormone naïve symptomatic metastatic patient starting degarelix.
 - b. Non metastatic castration resistant patient with PSA doubling time of 6 months.
 - c. Non metastatic patient receiving leuprolide and presenting with an osteoporotic fracture. T score on DXA scan = -4.1.
 - d. Asymptomatic metastatic castration resistant patient with increased activity on Tc99m bone scan.
19. Which of the following best describes the clinical benefit and toxicity of radium 223:
- a. Appropriate for all patients with castration resistant metastatic prostate cancer following docetaxel, its use associated with moderate myelosuppression.
 - b. Delays time to symptomatic skeletal events, major side effect is hand-foot syndrome.
 - c. Appropriate for patients with castration resistant metastatic prostate cancer with visceral metastases, minimal side effect profile.
 - d. Appropriate for patients with castration resistant metastatic prostate cancer with symptomatic bone metastases, no known visceral mets, mild to moderate GI toxicity.
20. Which of the following statements are true:
- a. Primary testosterone suppression via medical or surgical castration is required for optimal use of abiraterone + prednisone.
 - b. Sipuleucel-T improves overall survival and delays time to symptomatic skeletal events.
 - c. Enzalutamide is a first generation lyase inhibitor.
 - d. Abiraterone + prednisone improves survival of patients with castration resistant non-metastatic prostate cancer.