

What Urologists Want to Know: Addressing Current Questions and Controversies Regarding the Role of Immune Checkpoint Inhibitors in the Management of Bladder Cancer

THE CORRECT ANSWER IS INDICATED WITH YELLOW HIGHLIGHTING.

- The US Food and Drug Administration recently approved \_\_\_\_\_, an immune checkpoint inhibitor, for patients with locally advanced or metastatic urothelial bladder cancer who experience disease progression during or after platinum-based chemotherapy.

  - Atezolizumab
  - Avelumab
  - Nivolumab
  - Durvalumab
  - All of the above
  - Both a and c
- Which of the following statements is true about the current management of locally advanced or metastatic urothelial bladder cancer?

  - Locally advanced urothelial bladder cancer is best treated with neoadjuvant chemotherapy followed by radical cystectomy
  - Locally advanced urothelial bladder cancer is best treated with first-line therapy with immune checkpoint inhibitors
  - Metastatic urothelial bladder cancer is highly lethal with dismal survival rates
  - The use of immune checkpoint inhibitors represents a major breakthrough in the treatment of bladder cancer
  - All of the above
  - All except b
  - Only a, b and d
- Which of the following is a strong, definitive, consistent and proven predictive biomarker of the effectiveness of anti-PD-1/anti-PD-L1 antibodies in the treatment of bladder cancer?

  - PD-L1 expression
  - TCGA (The Cancer Genome Atlas) subtype
  - Mutational disease burden
  - All of the above
  - None of the above
- Results from the Phase III KEYNOTE-Q45 trial evaluating pembrolizumab versus chemotherapy with docetaxel, paclitaxel or vinflunine demonstrated a statistically significant improvement in \_\_\_\_\_ with pembrolizumab.

  - Overall survival
  - Progression-free survival
  - Objective response rate
  - All of the above
  - Both a and c
- The ongoing Phase I/II CheckMate 032 trial is evaluating nivolumab with or without \_\_\_\_\_ at 2 dose levels (1 or 3 mg/kg) for patients with locally advanced or metastatic solid tumors, including urothelial bladder cancer.

  - Ipilimumab
  - Pembrolizumab
  - Trametinib
- The ongoing Phase III DANUBE trial is evaluating first-line durvalumab with or without \_\_\_\_\_, an anti-CTLA-4 monoclonal antibody, versus standard chemotherapy for patients with unresectable metastatic urothelial bladder cancer.

  - Tremelimumab
  - Pembrolizumab
  - Avelumab
  - Cobimetinib

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7. Which of the following statements is true about preexisting autoimmune diseases and the use of immune checkpoint inhibitors in the management of cancer?
- Preexisting autoimmune disease is a general contraindication to immune checkpoint inhibitors
  - Propensity toward autoimmunity portends increased risk of related or unrelated autoimmune adverse events
  - Minimizing the risk of autoimmune adverse events is critical in the management of early-stage nonmuscle-invasive bladder cancer (NMIBC)
  - All of the above
  - Only a and c
8. Skin-related autoimmune toxicities observed with immune checkpoint inhibitors can be easily managed with the application of topical steroids.
- True
  - False
9. The results from a retrospective analysis of 52 patients with melanoma and preexisting autoimmune disease who received anti-PD-1 antibody therapy reported a flare of the autoimmune disease in approximately 100% of the patients on the study.
- True
  - False
10. The ongoing Phase II KEYNOTE-057 trial is evaluating the efficacy and safety of pembrolizumab in which population?
- Patients with early-stage bladder cancer and residual disease after transurethral bladder resection
  - Patients with high-risk NMIBC unresponsive to Bacillus Calmette-Guerin (BCG) therapy
  - Patients with low-risk NMIBC
  - All of the above