Article#1:" Understanding Glioblastoma Tumor Biology: The Potential to Improve Current Diagnosis and Treatments

Learning objective: Discuss the classification and pathophysiology of glioblastoma, as well as the current role of biomarkers.

CME questions:

1. Which statement concerning glioblastoma tumor biology is true?

    a. Cancer stem cells have not been identified in malignant gliomas
    b. There is no evidence of immunosuppression present in patients with glioblastoma
    c. Cancer stem cells are believed to play a crucial role in malignant glioma tumor initiation, progression, and angiogenesis
    d. Glioblastoma is characterized by intratumoral homogeneity

2. Members from which one of the following groups of proteins have the potential for use as biomarkers in the diagnosis and classification of gliomas?

    a. IDH1 (isocitrate dehydrogenase 1); MGMT (O6-methylguanine–DNA methyltransferase); HER2 (human epidermal growth factor receptor 2)
    b. EGFR *(*epidermal growth factor receptor*);* IDH1 (isocitrate dehydrogenase 1); IGFBP-3 (insulin-like growth factor binding protein-3)
    c. Chromogranin A; MGMT (O6-methylguanine–DNA methyltransferase); PDGF *(*platelet-derived growth factor)
    d. IDH1 (isocitrate dehydrogenase 1); MGMT (O6-methylguanine–DNA methyltransferase); PDGF (platelet-derived growth factor)

Article #2:" The Impact of Recent Data on the Optimization of Standards of Care in Newly Diagnosed Glioblastoma"

Learning objective: Examine current standards of care and emerging agents for newly diagnosed glioblastoma, including patient selection strategies and optimization of chemotherapy regimens.

CME questions

1. Which of the following statements is true regarding the outcome of a phase III, multicenter, randomized trial including patients with newly diagnosed glioblastoma, conducted by the European Organization for Research and Treatment of Cancer (EORTC) and the National Cancer Institute of Canada (NCIC)?

    a. The 2-year survival rate for the group receiving temozolomide plus radiotherapy was better than the 2-year survival rate in the group receiving radiotherapy alone
    b. The 2-year survival rate in the group receiving radiotherapy alone was better than the 2-year survival rate for the temozolomide plus radiotherapy group
    c. The 2-year survival rate in the group receiving radiotherapy alone and the group receiving temozolomide plus radiotherapy were similar
    d. The addition of temozolomide to radiotherapy resulted in a decrease in survival.

2. Which of the following biomarkers is NOT associated with improved survival prognosis for patients with newly diagnosed glioblastoma receiving the current standard of care?

a. Methylation of the MGMT (O^6-methylguanine-DNA methyltransferase) promoter gene
b. Lack of MGMT (O^6-methylguanine-DNA methyltransferase) protein expression
c. Lack of mutations in the *IDH1* (isocitrate dehydrogenase 1) gene
d. Presence of mutations in the *IDH1* (isocitrate dehydrogenase 1) gene

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Article #3:" Recurrent Glioblastoma: A Fresh Look at Current Therapies and Emerging Novel Approaches"

Learning objective: Evaluate therapeutic options for patients with recurrent glioblastoma, including the use of chemotherapy and targeted agents

CME questions:

1. Re-exposure of patients with recurrent glioblastoma to temozolomide using an alternative dose-dense 7-days-on/7-days-off regimen showed which of the following outcomes in phase II trials?

a. The 7-days-on/7-days-off regimen efficacy outcome was inferior to the standard (5/28) regimen
b. The 7-days-on/7-days-off regimen showed efficacy without substantial hematopoietic adverse events
c. The 7-days-on/7-days-off regimen showed efficacy, but led to substantial hematopoietic adverse events
d. The 7-days-on/7-days-off regimen showed no efficacy.

2. Which of the following statements regarding the incidence of toxicities with the antiangiogenic drug bevacizumab is supported by available clinical evidence?

a. Life-threatening intracranial hemorrhages associated with bevacizumab have been observed in only about 5% of the patients
b. Only non-life-threatening adverse events have been associated with bevacizumab treatment
c. Life-threatening intracranial hemorrhages associated with bevacizumab have been observed commonly, in about 20% of patients
d. Wound-healing complications due to angiogenic inhibition in normal tissues are a major concern when prescribing treatment with bevacizumab.