Mechanisms of immune escape after allo-HCT

To obtain credit, you should first read the journal article. After reading the article, you should be able to answer the following, related, multiple-choice questions. To complete the questions (with a minimum 75% passing score) and earn continuing medical education (CME) credit, please go to **http://www.medscape.org/journal/blood**. Credit cannot be obtained for tests completed on paper, although you may use the worksheet below to keep a record of your answers. You must be a registered user on http://www.medscape.org. If you are not registered on http://www.medscape.org, please click on the "Register" link on the right hand side of the website. Only one answer is correct for each question. Once you successfully answer all post-test questions you will be able to view and/or print your certificate. For questions regarding this activity, contact the accredited provider, CME@medscape.net. For technical assistance, contact CME@medscape.net. American Medical Association Physician's Recognition Award (AMA PRA) credits are accepted in the US as evidence of participation in CME activities. For further information on this award, please go to https://www.ama-assn.org. The AMA has determined that physicians not licensed in the US who participate in this CME activity are eligible for *AMA PRA Category 1 Credits*™. Through agreements that the AMA has made with agencies in some countries, AMA PRA credit may be acceptable as evidence of participation in CME activities. If you are not licensed in the US, please complete the questions online, print the AMA PRA CME credit certificate, and present it to your national medical association for review.

Zeiser R, Vago L. Mechanisms of immune escape after allogeneic hematopoietic cell transplantation. *Blood*. 2019;133(12): 1290-1297.

1. You are advising a pharmaceutical company regarding potential strategies for development of therapeutics targeting relapse in acute myeloid leukemia (AML). According to the review by Zeiser and Vago, which of the following statements about impaired leukemia cell recognition and inhibitory immune-checkpoint molecules as mechanisms of tumor cell escape from the control of the allogeneic immune response after allogeneic hematopoietic cell transplantation (allo-HCT) for acute leukemias is correct?

- ☐ Loss of the mismatched HLA in the leukemia genome is unlikely to play a significant role in relapse after allo-HCT
- ☐ Genomic loss of mismatched HLA reduces the overall level of expression of HLA class I molecules and activates a natural killer cell–mediated response
- ☐ The role of inhibitory immune-checkpoint molecules in AML relapse is mostly supported by animal studies
- ☐ In clinical trials, blocking CTLA4 in AML relapse was shown to be effective

2. According to the review by Zeiser and Vago, which of the following statements about other mechanisms of tumor cell escape from the control of the allogeneic immune response after allo-HCT for acute leukemias is correct?

- ☐ After allo-HCT, AML cells may produce anti-inflammatory cytokines such as transforming growth factor-β30, which can paralyze immune responses
- ☐ High interleukin-15 levels in the microenvironment are favorable for leukemia cell growth
- ☐ Enzymes involved in metabolism that influence T-cell function and immunosuppressive microenvironments have been proven to mediate immune escape after allo-HCT
- ☐ Novel oncogenic mutations are unlikely to be involved in relapse after allo-HCT

3. According to the review by Zeiser and Vago, which of the following statements about selected therapeutic strategies against immune escape in AML relapse after allo-HCT is correct?

- ☐ Evidence to date supports use of a single therapeutic strategy regardless of patient and tumor characteristics
- ☐ In relapses with genomic loss of HLA, repeat lymphocyte infusion from the original donor is most likely to be effective
- ☐ FLT3–internal tandem duplication mutant AML relapsing after allo-HCT responded to combined inhibition of the driving signaling pathway with sorafenib and immunotherapy, according to retrospective studies
- ☐ Immunomodulatory drugs such as lenalidomide are both safe and effective for treatment of AML relapse after allo-HCT

DOI 10.1182/blood-2019-01-900159