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Continuing Medical Education (CME) Questions

Pediatric disease risk index for acute leukemia

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Qayed M, Ahn KW, Kitko CL, Johnson MH, Shah NN, Dvorak C, Mellgren K, Friend BD, Verneris MR, Leung W, Toporski J, Levine J, Chewning J, Wayne A, Kapoor U, Triplett B, Schultz KR, Yanik GA, Eapen M. A validated pediatric disease risk index for allogeneic hematopoietic cell transplantation. *Blood.* 2021;137(7):983-993.

1. **Your patient is a 7-year-old boy with acute myeloid leukemia (AML). According to the study by Qayed and colleagues, which of the following statements about development of the pediatric disease risk index (DRI) for stratifying children and adolescents with AML and acute lymphocytic leukemia (ALL) undergoing hematopoietic cell transplantation (HCT) into risk groups according to patient and disease characteristics is correct?**
   - ☐ For ALL, B- and T-cell lineage and cytogenetic risk were significantly associated with leukemia-free survival (LFS)
   - ☐ Hematopoietic comorbidity score and performance score were significantly associated with LFS for AML and ALL
   - ☐ Two independent predictors were associated with lower LFS for AML
   - ☐ For AML, 4 risk groups were identified on the basis of age, cytogenetic risk, and disease status, including minimal residual disease status at transplantation

2. **According to the study by Qayed and colleagues, which of the following statements about validation of the pediatric DRI for stratifying children and adolescents with AML and ALL undergoing HCT into risk groups on the basis of patient and disease characteristics is correct?**
   - ☐ For AML, 5-year LFS for low (0 points), intermediate (2, 3, 5), high (7, 8), and very high (> 8) risk groups was 78%, 53%, 40%, and 25%, respectively ($P < .0001$)
   - ☐ For ALL, the 3 risk groups did not differ significantly in 5-year LFS
   - ☐ The DRI did not predict outcome among patients with AML aged 12 to 18 years
   - ☐ For AML, compared with patients with low risk, overall survival was 50% lower (hazard ratio = 1.5) for individuals with high risk or very high risk

3. **According to the study by Qayed and colleagues, which of the following statements about clinical implications of the pediatric DRI for stratifying children and adolescents with AML and ALL undergoing HCT into risk groups on the basis of patient and disease characteristics is correct?**
   - ☐ The pediatric DRI is not feasible or reliable for use in clinical settings
   - ☐ Donor type affects the usefulness of the pediatric DRI
   - ☐ The DRI can stratify heterogenous populations of children and adolescents in HCT trials on the basis of their risk for relapse or mortality
   - ☐ The pediatric DRI is likely to be useful only within the United States and is not more effective in children than the adult DRI

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