USEFUL FOR

Aiding in the monitoring of a previously confirmed diagnosis of B-cell lymphoblastic leukemia

CLINICAL INFORMATION

B-cell lymphoblastic leukemia/lymphoma (B-ALL) is a neoplasm of precursor cells (lymphoblasts) committed to B-cell lineage. B-ALL is the most common acute leukemia in children and adolescents, and also occurs in adults. Patients with B-ALL typically present with a high blast count in the peripheral blood, and bone marrow replacement with the disease. The diagnosis of B-ALL is based on a combination of morphologic features showing primarily small blasts with open chromatin and high N:C ratio, and an immunophenotype showing immaturity (CD34 and/or TdT expression) associated with B-cell lineage markers (CD19, CD22, and CD79a).

New therapeutic approaches in B-ALL have been increasingly successful. One of the most important predictors of the disease relapse is the ability to detect minimal residual disease (MRD) in the bone marrow specimens following induction phase of the therapy (day 28). Immunophenotyping studies are necessary as morphologic features are not sufficient to detect MRD. The absence of MRD (at 0.01% sensitivity) is an important prognostic indicator in these patients.

This test is used to establish an antigen footprint of tumor cells at diagnosis to monitor minimal residual disease in these patients after treatments and/or transplants.

INTERPRETATION

An interpretive report for presence or absence of B lymphoblastic leukemia minimal residual disease (MRD) is provided. Patients who have detectable MRD by this assay are considered to have residual/recurrent B-ALL.

SUPPORTIVE DATA

Thirty-three patient samples were analyzed with 14 of these showing no measurable minimal residual disease (MRD). Nine of these had levels greater than 50% ALL involvement. Six of these had 2.19% to 24.39% MRD involvement. The 4 with the lowest percent MRD involvement were 0.2%, 0.05%, 0.02%, and 0.01% (assay sensitivity).
CLINICAL REFERENCE


