Single-tube multiparametric flow cytometry predicts treatment response in leukemia

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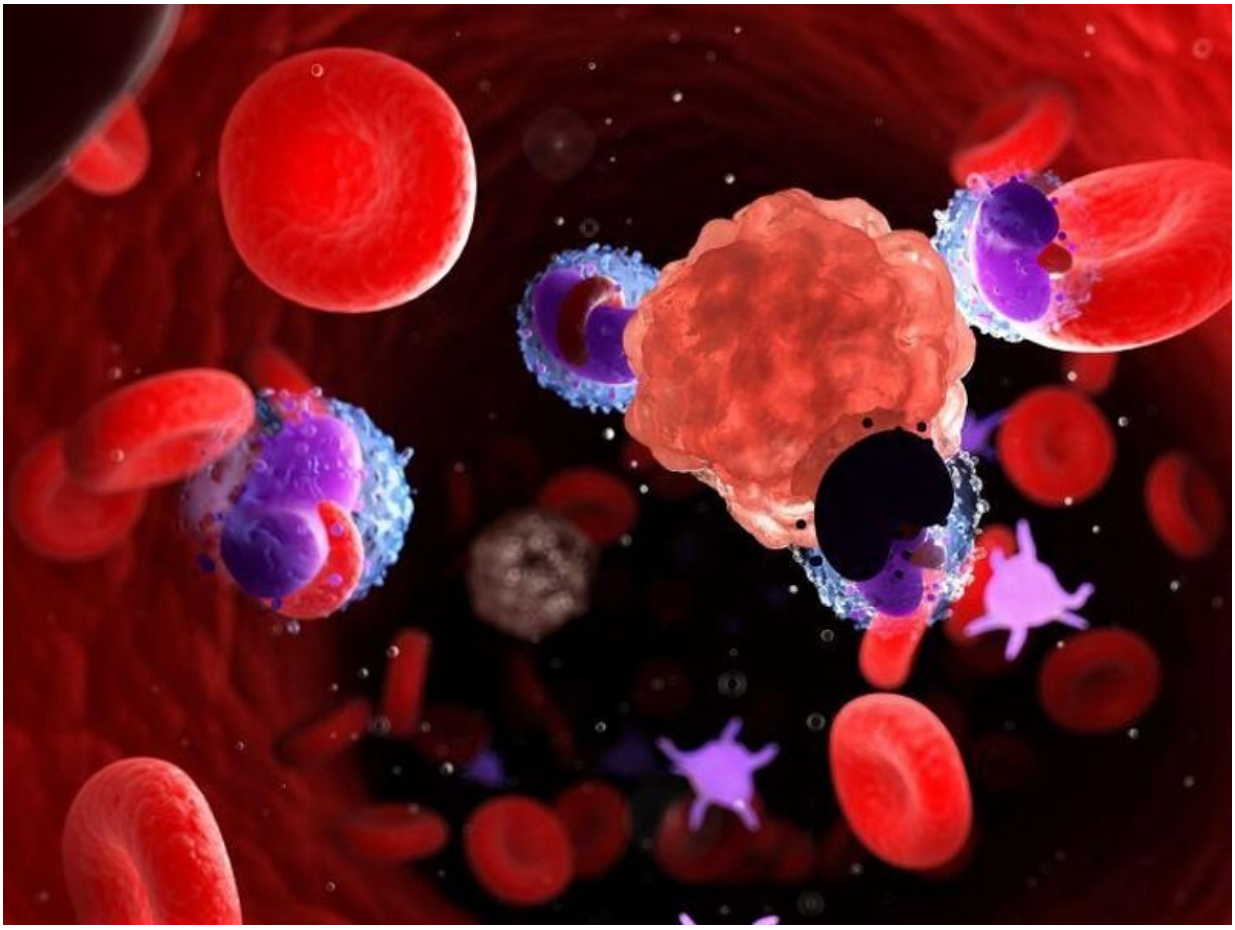

A single-tube eight-color multiparametric flow cytometry (MFC) panel

has good sensitivity for minimal/measurable residual disease (MRD) and excellent prediction for survival among patients with B-cell acute lymphoblastic leukemia (B-ALL), according to a study published online Dec. 12 in the *Archives of Pathology & Laboratory Medicine*.

Hongyan Liao, Ph.D., from the West China Hospital of Sichuan University in Chengdu, and colleagues reported their experience using a single-tube eight-color MFC panel to measure MRD status in adult B-ALL patients. The characteristics, MRD status, and prognosis of 486 patients were analyzed during a 10-year period.

The researchers found that in 74.2 percent of cases, MRD as assessed by MFC and polymerase chain reaction assays for *BCR-ABL*$^+$ patients were concordant. MRD-negative status by MFC panel predicted favorable relapse-free survival and overall survival at the end of induction and the end of one consolidation course. Compared with those with at least one MRD-positive result and continuous MRD-positive results, patients with continuous MRD-negative results and at least one MRD-negative result showed favorable relapse-free survival and overall survival.

"Our single-tube eight-color MFC could potentially be taken as a routine indicator in the evaluation of the treatment response for adult patients with B-ALL," the authors write.

More information: Hongyan Liao et al, Association of Minimal Residual Disease by a Single-Tube 8-Color Flow Cytometric Analysis With Clinical Outcome in Adult B-Cell Acute Lymphoblastic Leukemia, *Archives of Pathology & Laboratory Medicine* (2022). DOI: 10.5858/arpa.2022-0172-OA