Medical Xpress

Flow cytometry assesses minimal residual disease in myeloma

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(HealthDay)—Data on methods used for assessing minimal residual

disease (MRD) in multiple myeloma (MM) are presented in a report published online Oct. 23 in the *International Journal of Laboratory Hematology*.

Irina V. Galtseva, from the Ministry of Healthcare of the Russian Federation in Moscow, and colleagues discussed the use of new diagnostic methods for MRD detection in MM.

The researchers note that response to treatment and prediction of recurrence can be assessed more reliably using new diagnostic methods, including allele-specific polymerase chain reaction, new-generation sequencing, and multicolor flow cytometry, which allow detection of MRD with sensitivity of 10^{-5} to 10^{-6}. Multiflow cytometry is nonstandardized, and its sensitivity and specificity depend on monoclonal antibody panel, characteristics of flow cytometers, and strategies for gating. Increasing the numbers of antigens analyzed and using at least eight-color flow cytometry enables highly specific and accurate analysis, resulting in sensitivity of about 0.001 percent.

"It has been demonstrated that MRD in MM patients is potentially achievable and is an important independent prognostic factor. Thus, MRD testing is essential in assessing treatment effectiveness at different stages of treatment and in future can help take adequate decisions at the stage of maintenance therapy after HDCT [high-dose chemotherapy] and also design individual treatment protocols," the authors write.

More information: Abstract
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