Minimal residual disease

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Assessment of minimal residual disease (MRD) is becoming standard diagnostic care for potentially curable neoplasms such as some acute leukemias as well as chronic myeloid and lymphocytic leukemia. Although multiple myeloma (MM) remains as an incurable disease, around half of the patients achieve complete remission (CR), and recent data suggests increasing rates of curability with comprehensive “total-therapy-like” programs. This landscape is likely to be improved with the advent of new antibodies and small molecules. Therefore, conventional serological and morphological techniques have become suboptimal for sensitive evaluation of highly-effective treatment strategies, and the role of MRD for response assessment and potential implications for clinical decision making is matter of extensive debate. Here, we discuss existing data on the prognostic value of MRD detection in MM using immunophenotypic, molecular and imaging techniques. Because existing data suggests that MRD could be used as a biomarker to evaluate treatment efficacy, help on therapeutic decisions, and act as surrogate for overall survival, the time has come to address within clinical trials the exact role of MRD monitoring in MM, which implies systematic usage of highly sensitive cost-effective, readily available and standardized MRD techniques.

Learning points:

- The higher efficacy of new treatment strategies for MM demand the incorporation of highly-sensitive techniques to monitor treatment efficacy.
- MRD could be used as a more potent surrogate biomarker for overall survival than standard CR.
- We need to understand the pros and cons of the different MRD techniques.
- The time has come to incorporate highly sensitive, cost-effective, readily available, and standardized MRD techniques into clinical trials to assess its role in therapeutic decisions.