CASE 1.

Case Summary

This is a case of AML with mutated *NPM1* (NPMA) without FLT3-ITD showing post-C2 PB MRD positivity.

The learning points of this case are:

- Both BM and PB samples tested at post-cycle 1 of chemotherapy. Testing post-course 1 (PC1) is a typical laboratory request as a bone marrow biopsy is routinely performed after cycle 1 induction chemotherapy. However, PC1 is not a defined timepoint for MRD testing for *NPM1* mutation and the MRD burden and qualitative response are therefore 'not defined'.
- At post-C2 induction chemotherapy both the BM and PB are tested. At this timepoint PB is the recommended tissue sample for testing. Hence BM MRD is not defined post-C2 induction chemotherapy.
- The post-C2 PB MRD burden is MRD+, defined as mut*NPM1*/*ABL1* ≥0.01% AND detectable.
- The post-C2 PB qualitative MRD response is 'warning' and not 'high risk of treatment failure'.
- Post-C2 there is clinical uncertainty on the optimal treatment pathway, proceeding to allo-HCT or continuing to consolidation chemotherapy.
- The next recommended timepoint for MRD testing is end of treatment with a BM sample.