

MULTIPLE MYELOMA

ADULT PATIENT

Highlights

- Myeloma patient with high-risk cytogenetics (17p deletion) and renal comorbidities
- Patient achieved sCR following induction and proceeded to autologous stem cell transplant
- Following transplant, maintenance was initiated
- clonoSEQ Tracking (MRD) test employed for routine monitoring and eventually used to inform recommendation to re-initiate therapy

Actual results may vary. Limited to one patient case.

Physician's Perspective*

“The typical pattern with high-risk patients is that they respond very quickly but also relapse very fast. In the case of this patient, we used triplet therapy (RVD) in maintenance, but the patient pressed to stop treatment because he didn't like the side effects. He dropped dexamethasone and then lenalidomide over the course of 2016. In May 2017, he decided to stop bortezomib as well. I was concerned and negotiated with him to try an oral targeted therapy. Three months later, he had a clonoSEQ MRD-positive result of 4 residual cells per million. At that point, having seen many other patients with low-level MRD go on to relapse, I recommended that the patient go back on triplet therapy.

If a patient insists on stopping therapy, we watch them more carefully. An MRD+ result becomes a way to motivate the patient to get back on therapy. In some cases, I might watch the MRD over time, but this patient had such bad-risk disease that I wanted to re-start treatment immediately. In every situation where I've seen MRD going up, they all relapsed eventually.”

Patient History

- Late 60s male with renal failure on dialysis
- Diagnosed with multiple myeloma; genomic analysis revealed 17p deletion
- Achieved stringent CR following 6 cycles of CyBorD induction
- Proceeded to autologous stem cell transplant and then began RVD maintenance

*Clinician has received compensation to participate in advisory meetings sponsored by Adaptive. Clinician's research has also been supported, in part, via product grants.

clonoSEQ is an FDA-cleared in vitro diagnostic (IVD) test service provided by Adaptive Biotechnologies for use in B-cell acute lymphoblastic leukemia and multiple myeloma patients to detect and monitor measurable residual disease (MRD) in bone marrow samples. clonoSEQ is also available for use in other lymphoid cancers as a CLIA-regulated laboratory developed test (LDT) service provided by Adaptive Biotechnologies. clonoSEQ is available by prescription only. clonoSEQ results should always be used in combination with clinical examination, patient medical history, and other findings. Results may vary according to sample time within the course of disease or by sampling site location. Adaptive Biotechnologies does not endorse the use of any particular therapies.



Use of the clonoSEQ Assay

- 1 At diagnosis, the clonoSEQ Clonality (ID) Test detected considerable disease burden. Patient was started on a CyBorD induction regimen.
- 2 In July 2014, post-induction clonoSEQ Tracking (MRD) Test results found no evidence of measurable residual disease (MRD) in the bone marrow. Patient proceeded to transplant in September 2014.
- 3 Post-transplant (six months later), a clonoSEQ Tracking (MRD) test showed that MRD negativity was maintained during the patient's first three months of maintenance therapy.
- 4 Patient's maintenance regimen was continued, and two routine clonoSEQ Tracking (MRD) tests conducted 12 months and 22 months later continued to show MRD-negative results. In May 2017, patient elected to discontinue all therapy.
- 5 In October 2017, clonoSEQ detected 4 cells per million. Due to high-risk status, physician recommended immediate re-initiation of triplet therapy.

Intended Use:

The clonoSEQ Assay is an *in vitro* diagnostic that uses multiplex polymerase chain reaction (PCR) and next-generation sequencing (NGS) to identify and quantify rearranged IgH (VDJ), IgH (DJ), IgK, and IgL receptor gene sequences, as well as translocated BCL1/IgH (J) and BCL2/IgH (J) sequences in DNA extracted from bone marrow from patients with B-cell acute lymphoblastic leukemia or multiple myeloma.

clonoSEQ measures minimal residual disease (MRD) to monitor changes in burden of disease during and after treatment. The test is indicated for use by qualified healthcare professionals in accordance with professional guidelines for clinical decision-making and in conjunction with other clinicopathological features.

clonoSEQ is a single-site assay performed at Adaptive Biotechnologies.

Special Conditions for Use:

- For *in vitro* diagnostic use.
- For prescription use only (Rx only).

Limitations:

- clonoSEQ is for use with bone marrow specimens collected in EDTA tubes.
- Results should always be used in combination with clinical examination, patient medical history, and other findings.
- Results may vary according to sample time within the course of disease or by sampling site location.
- clonoSEQ may overestimate MRD frequencies near the limit of detection (LoD).
- MRD frequency LoD varies based on the amount of DNA tested; using less DNA input may prevent MRD detection at low frequencies.
- The volume and cellularity of sampled input material may affect the ability to detect low levels of disease.
- Sample processing and cell enrichment strategies may affect the measured MRD frequency.
- False positive or false negative results may occur for reasons including, but not limited to: contamination, technical, and/or biological factors.
- MRD values obtained with different assay methods may not be interchangeable due to differences in assay methods and reagent specificity.

For important information about the FDA-cleared uses of clonoSEQ, including test limitations, visit clonoseq.com/technical-summary.

Contact Adaptive Clinical Services**(888) 552 8988****clinicalservices@adaptivebiotech.com**