Managing Myeloma

45 y/o male presents with biochemical relapse and free light chain escape

Sagar Lonial, MD, FACP
Chair and Professor
Department of Hematology and Medical Oncology
Chief Medical Officer
Winship Cancer Institute
Emory University School of Medicine
Atlanta, Georgia

Hello, my name is Dr. Sagar Lonial, and I am the Chair of the Department of Hematology and Medical Oncology at Emory University in Atlanta, Georgia. In this Clinical Snapshot, I will be discussing a patient with multiple myeloma.

So, let's begin. This was a 45-year-old gentleman who presented initially with bone pain and acute renal insufficiency for the diagnosis of myeloma. His initial diagnostic workup demonstrated the presence of 17p deletion on his routine bone marrow with about 40-50% plasma cells, and he also presented with significant profound anemia and a creatinine of about 2.5. He was initially treated with bortezomib, lenalidomide, and dexamethasone, or RVd-based induction therapy, underwent high-dose therapy, and autologous transplant after having achieved a partial response to induction and then was on RVd as maintenance therapy for two years. He did well and actually tolerated this treatment quite well with the RVd maintenance therapy as published by our group a few years ago. However, of late, he had been noted to have biochemical and free light chain escape and so was subsequently in the office to discuss additional therapeutic options. Again, his current history is really unremarkable. He has been tolerating RVd-based maintenance therapy as published by our group several years ago, and his only real complaint was the development of grade 1 peripheral neuropathy. His key past medical history was really unremarkable, and he had no significant comorbidities at that time point. At the time point of this decision-making process, his laboratory studies demonstrated a hemoglobin of about 11.5. He had a normal skeletal survey and also had a PET-CT scan that did demonstrate some new bone lesions in the femurs bilaterally. He also underwent serum protein electrophoresis which demonstrated the presence of a kappa light chain on immunofixation which was seen at his original diagnosis, but more concerning was the presence of a significantly abnormal free light chain ratio with a ratio of over 60:1 with a free kappa that was as high as 700. Previously, it had been essentially normal. The free lambda was in the normal range at that time point. He also presented with a negative urine protein electrophoresis. Repeat bone marrow aspiration biopsy demonstrated the presence of about 30% infiltrating plasma cells, and he also had the presence of deletion 17p as well as deletion of 13q abnormalities on his routine FISH analysis. He continues to not have an abnormal karyotype at this time point.

At this time point, we discussed additional treatment options for the management of his relapsing high-risk multiple myeloma, and we decided on a treatment of carfilzomib with pomalidomide and dexamethasone. The rationale behind this choice really is based on the fact that he progressed on low doses of lenalidomide and bortezomib and specifically because we know that both carfilzomib and pomalidomide appear to have encouraging activity in the context of 17p deleted patient. There is certainly encouraging data published by Jatin Shah on the