Survival in Mantle Cell Lymphoma

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Background: Mantle Cell Lymphoma is an an aggressive B-Cell type of Non-Hodgkin’s lymphoma and account for only 2-10% of it. It is more frequently affecting middle-aged to older males; M:f=2-7:1. The median age of MCL is 60 years and average range is 35-85 years. The most consistent cytogenetic feature is translocation t(11;14)(q13;q32), found in about 85% of patients. The expression of CCND1 and encoding for Cyclin D1 is regulated by this translocation. Cyclin D1 is a protein that regulates G1-S transition following mitotic growth factor signaling, hence stimulates tumor cell division and growth. The major complication of MCL is decreased life-span and death.

Materials and Method: Case Study

Results: A 65 old male presented with enlarged left cervical lymph nodes for past 4-6 months. On examination there were enlarged left tonsils, ill-defined epigastric mass and hepatosplenomegaly with Performance status ECOG 1. Hemogram within normal range. CECT showed lymphadenopathy with thickening of stomach wall at fundus and body. Biopsy from cervical lymph nodes showed abnormal lymphoid cells which were positive for CD20, weekly positive for CD5 and Cyclin D1 while negative for CD3 and CD23. Biopsy from abdominal mass showed abnormal lymphoid cells which were CD20+V,CD5+V and Cyclin D1+V. Bone marrow biopsy showed lymphoid cells positive for CD20 and Cyclin D1 and negative for CD3. Based on Cyclin D1 positivity, MCL stage IV was considered. MIPI score 5.9 was evaluated. The case was managed with standard protocol of Bendamustine+Rituximab followed by radiotherapy to achieve complete response. The patient lost contact after 2 years, possibility of death is suspected approximately after 24 months of diagnosis.

Conclusion: MCL is a type of NHL, needs to be differentiated carefully from other forms of lymphoma, as different types of lymphoma has different therapeutic regimen. CD20+ indicates B-Cell origin. Negative CD23 excludes CLL(CD5+ and CD23+). Cyclin D1+ strongly suggests MCL. MCL has poor prognosis even with appropriate therapy. Usually, treatment failures are seen in less than 18 months. The median survival time is about 3-4 years. Survival rate of up to 10 years is only about 5-10% of cases. The new therapeutic strategies, intended to target the molecular mechanism of the disease and opening up new clinical perspective for optimal diagnosis and management of the patients will certainly enhance the prognosis and survival rate. A clinical MCL Index (MIPI) based on age, ECOG, performance status, LDH values and leukocyte count and five-gene model(RAN,MYC,TNF,RSF108,POLE2,SLC29AZ) are applicable for both frozen and routine samples and based on quantitative RT-PCR analysis, has been proposed as further prognostic indicator.

Keywords: Mantle cell lymphoma, NHL, Cyclin D1, MIPI