Mantle Cell Lymphoma

Jaewon Hyung
Asan Medical Center, Korea

Mantle cell lymphoma (MCL) is a distinct and heterogeneous B-cell malignancy that remains largely incurable despite significant therapeutic advancements. Traditionally managed with intensive chemoimmunotherapy followed by autologous stem cell transplantation in young, fit patients, the treatment landscape is now undergoing a paradigm shift driven by the integration of targeted agents. In the frontline setting, the results of the TRIANGLE trial have challenged the historical role of consolidative ASCT, suggesting that the addition of ibrutinib to induction and maintenance may allow for the omission of transplant without compromising failure-free survival. Furthermore, the emergence of highly effective, potentially "chemotherapy-free" regimens, such as BTK inhibitor BTKi and anti-CD20 combinations, is reshaping our approach for both transplant-eligible and ineligible populations.

Biological insights have identified *TP53* mutations, *CDKN2A* deletions, and high Ki67 (> 30%) as critical biomarkers for high-risk disease, which often exhibits suboptimal responses to standard CIT. Understanding the tumor microenvironment and intrinsic resistance mechanisms, such as alternative NF-kappa B pathway activation and *BCL2* dysregulation, has paved the way for novel combinations involving second-generation BTKis and BCL2 inhibitors.

For relapsed/refractory disease, covalent BTKis remain the cornerstone of therapy. However, for patients failing BTKi, cellular therapies like brexucabtagene autoleucel and non-covalent BTKis offer promising salvage options. This session will provide a comprehensive review of these evolving strategies, emphasizing the transition toward personalized, biomarker-driven management and the clinical utility of measurable residual disease monitoring in optimizing long-term outcomes for MCL patients.