Treatment Efficacy of Progression Free Survival for Refractory/Relapsed Multiple Myeloma in Geriatric Patients: a network meta-analysis

Lee, Cho-Hao

Division of Hematology and Oncology Medicine, Department of Internal Medicine, Tri-Service General Hospital/National Defense Medical Center

In recent 10 years, there were many studies explored the treatment efficacy of refractory/relapse multiple myeloma (R/R MM). Emerging evidences proved combination of new treatment modalities is significant better than traditional therapy. However, very few studies focus on geriatric patient who are more fragile and may not be able to tolerate treatment.

We performed a systematic literature review to identify all publicly available randomized controlled trials (RCT) evidence. Geriatric Patients with a diagnosis of R/R MM received subsequent active treatment were included. Geriatric patients with avaiable data was extracted from each study. The evidence was synthesized using a Bayesian network meta analysis. Hazard ratio (HR) was adopted.

In total, 4,966 citations were retrieved from the databases; 60 full texts were screened, of which 47 were excluded. In total, 13 RCTs were identified for quantitive analysis, including 14 treatment options (figure). Total 4337 geriatric patient were enrolled for network meta-analysis. All trials had good quality. The triple combination therapy of daratumumab, lenalidomide and dexamethasone (DaraLenDex) was identified as the best treatment option in patients with R/R MM (figure). It was most favorable in terms of (1) HR for progression free survival (0.15; 95% credible interval (CI): 0.09 to 0.25) with significance and (2) probability of being best (96% of the cumulative ranking).

To the best of our knowledge, this is the first NMA on R/R MM that includes all regimens currently evaluated in randomized trials in elderly R/R MM. Our findings suggest that a 3-drug regimen containing the lenalidomide-dexamethasone backbone, preferentially combined with anti-MM mAbs daratumumab or elotuzumab, has the highest probability of being ranked as the best treatment in this setting, underlying the role of immunotherapy in MM.