Evaluation of Bispecific T-cell Engagers in Multiple Myeloma Patients at a Community Teaching Hospital

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Purpose:

Currently FDA-approved bispecific T-cell engagers (BiTEs) for the treatment of relapsed or refractory (R/R) multiple myeloma includes teclistamab, talquetamab, elranatamab, and linvoseltamab. These agents have demonstrated meaningful clinical benefit in heavily pretreated patients, though carry risks for the development of cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS), both with the potential to be life-threatening. While these medications have been evaluated in clinical trials, the increased observational standards within trials may not reflect the rates observed in practice. This study serves to generate real-world evidence of both the safety and efficacy of each agent.

Methods:

This study was performed as a retrospective chart review at St. Lukes hospital in St. Louis, Missouri. It was approved by the investigational review board of the hospital as well as Southern Illinois University of Edwardsville's. Electronic medical records were used to collect data regarding patients. Adult patients who received a BiTE (teclistamab, talquetamab, elranatamab, and linvoseltamab) for the treatment of R/R multiple myeloma through St. Lukes Center for Cancer Care in the St. Louis area within the last 3 years were eligible for this study. The expected sample size is approximately 20 patients. Baseline patient characteristics and treatment history will be collected. The primary objective is to describe the efficacy of these agents in terms of disease response rates, duration of responses, progression free and overall survival, and minimum residual disease negativity.

The secondary objective is to describe safety through incidence and severity of treatment-related adverse effects, specifically regarding CRS and ICANS. Descriptive statistics will be used in the presentation of data.