Safety and Efficacy of Teclistamab in the Management of Relapsed/Refractory Multiple Myeloma: A Meta-Analysis

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BACKGROUND

- Teclistamab is a novel T-cell-redirecting bispecific antibody that is FDA approved in the treatment of relapsed/refractory multiple myeloma (RRMM)
- Mediates T-cell activation and lysis of BCMA-expressing myeloma cells by binding to both CD3 on T cells and BCMA on myeloma cells
- Clinical trial data have shown a high rate of durable response for teclistamab in RRMM
- Response rates compared favorably with other anti-BCMA therapies
- This meta-analysis assesses teclistamab's safety and efficacy through analysing its response rate and adverse events profile

METHODS

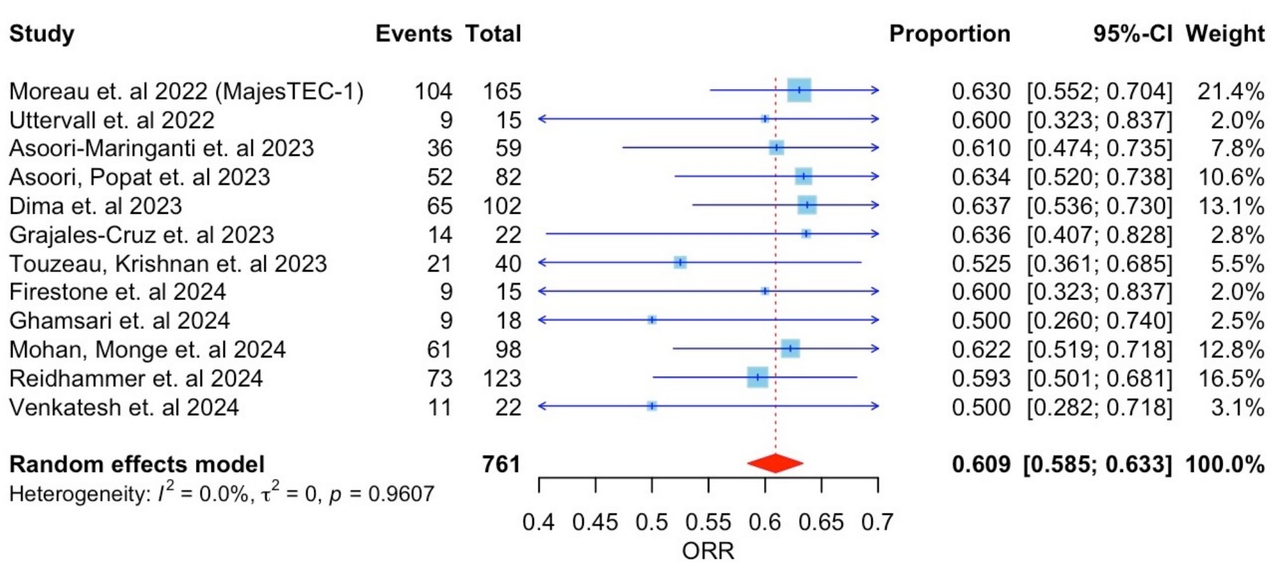
- PubMed, Embase, Cochrane used to identify studies reporting teclistamab monotherapy in RRMM. PRISMA guidelines were followed
- Meta-analyses performed using the R meta package with random-effects model
- Primary end point: overall response rate (ORR)
- Secondary endpoints: complete response (CR), mortality rate (MR) and significant grade ≥ 3 adverse events (AEs)
- Twelve studies with 761 total patients were included (1 clinical trial, 11 retrospective studies)

CONCLUSION

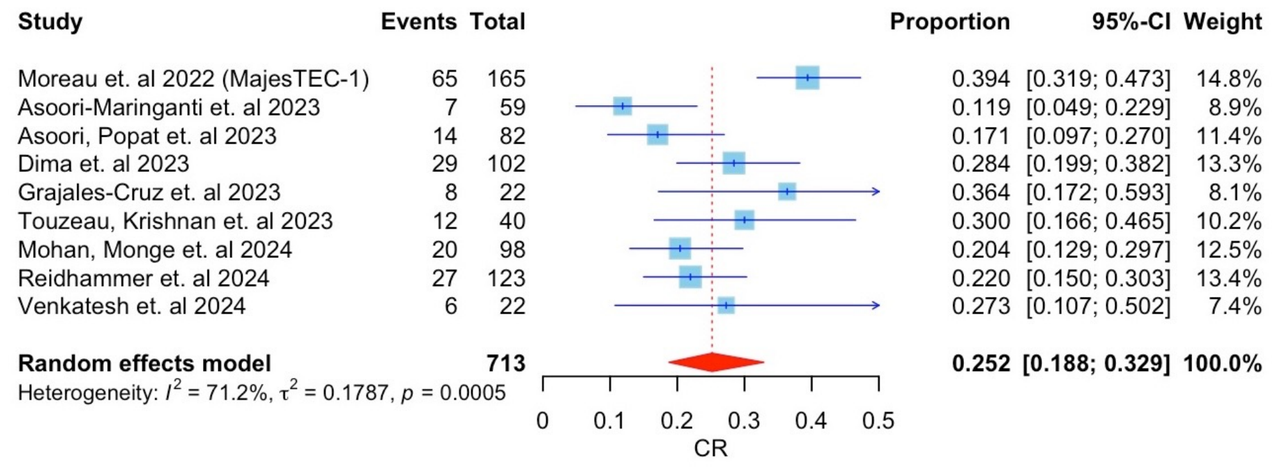
- **This meta-analysis supports teclistamab's efficacy and safety in the treatment of RRMM**
- ORR of 60.9% and CR of 25.2% were consistent with landmark Majes-Tec1 clinical trial findings for teclistamab in RRMM
- Mortality directly attributed to teclistamab was low
- **Incidences of ICANS and CRS were rare**
- Most common grade ≥ 3 adverse effects were lymphopenia, neutropenia, infections, anemia, and thrombocytopenia
- This greater understanding may better support patients and clinicians in their shared clinical decision-making process

RESULTS

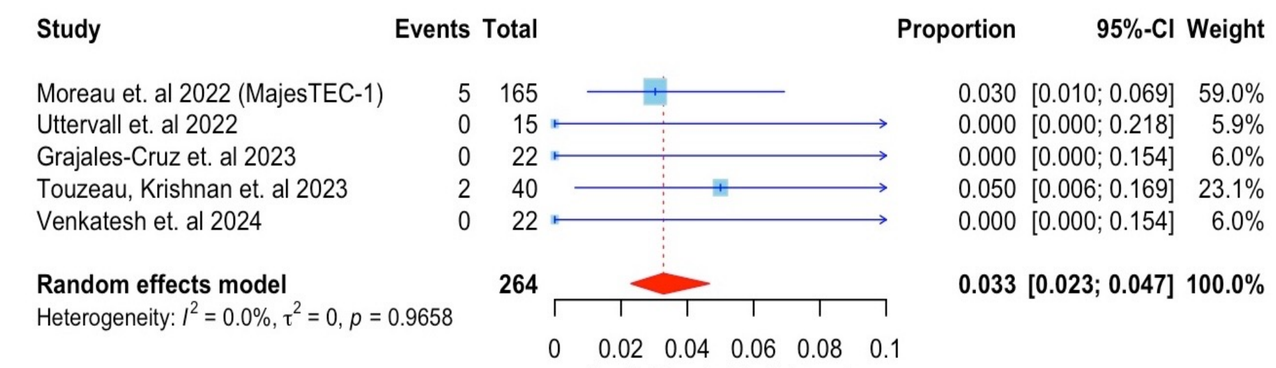
- **ORR = 60.9% (95% CI 58.5%–63.3%)**



- CR = 25.2% (CI 18.8%–32.9%)

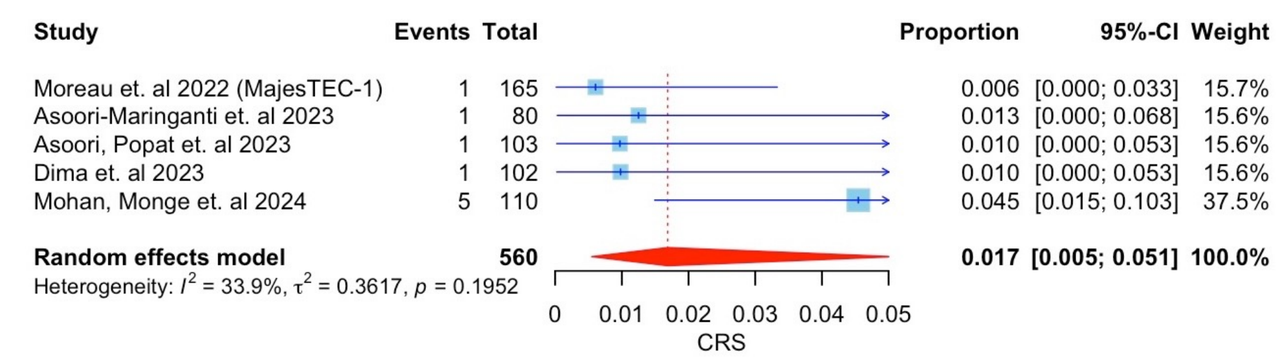


- OMR = 26.9% (CI 13.3%–47.1%)
- Mortality rate due to teclistamab = 3.3% (CI 2.3%–4.7%)



- Most common grade ≥ 3 adverse events:
  - lymphopenia 53.0% (CI 2.0%–99.0%)
  - neutropenia 45.0% (CI 23.0%–69.0%),
  - infections 28.3% (CI 15.3%–46.3%)
  - anemia 27.0% (CI 15.0%–45.0%)

- **Grade ≥ 3 cytokine release syndrome (CRS) = 1.7% (CI 0.5%–5.1%)**



- **Grade ≥ 3 immune effector cell-associated neurotoxicity syndrome (ICANS) = 3.11% (CI 1.45%–6.55%)**

