Comparing the Efficacy of Mogamulizumab and Vorinostat in previously treated cutaneous T cell Lymphoma: A Systematic Review and Meta-Analysis.

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Introduction

Cutaneous T-cell lymphoma (CTCL) which includes mycosis fungoides (MF) and Sézary syndrome (SS), are initially treated with cutaneous therapy. However, they are prone to relapse requiring systemic therapy. Mogamulizumab, a CCR4-targeting monoclonal antibody, and vorinostat, a histone deacetylase inhibitor, are both approved treatments in relapsed/refractory CTCL.

Objectives

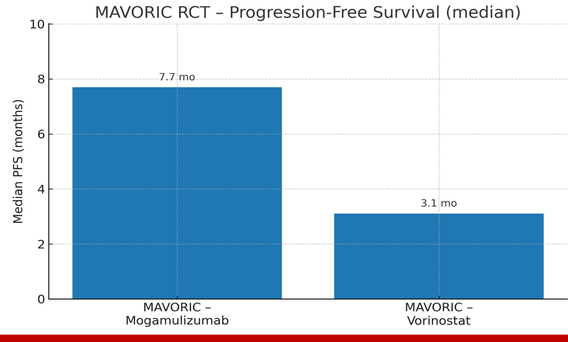
To evaluate and compare the efficacy of Mogalizumab and Vorinostat in previously treated Cutaneous T- cell Lymphoma

Methods

A systematic search of literature was conducted from Pubmed and Google Scholar databases which identified six eligible studies. Five of these were single-arm trials (three mogamulizumab, two vorinostat) and one randomized controlled trial (RCT). We combined response rates from single-arm trials for each drug using inverse variance weighting meta-analysis, with statistical adjustment for variation and study differences in size. The MAVORIC trial was reported independently since it is the only randomized controlled trial providing a direct comparison of vorinostat and mogamulizumab.

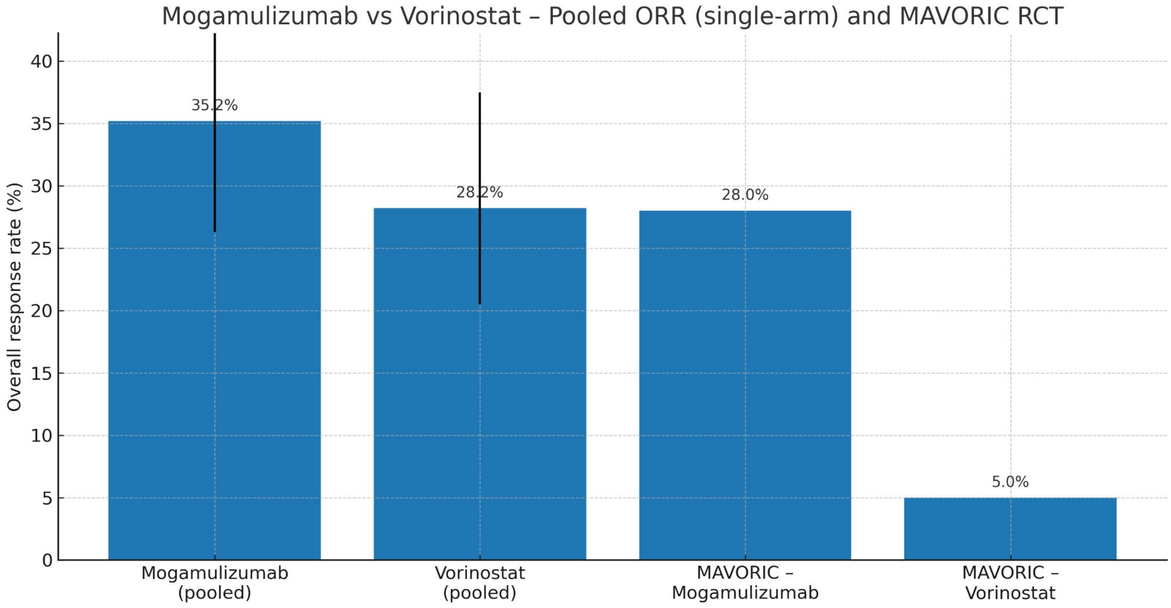
Results

- A total of **616** patient data including 244 in single arm studies and 372 in RCT.
- Among these, the pooled ORR for mogamulizumab was **35.2%** (95% CI: 26.3%–45.4%), with low heterogeneity (I^2 = 25.5%) while the pooled ORR for vorinostat was **28.2%** (95% CI: 20.5%–37.5%), with no heterogeneity (I^2 = 0%) in single arm studies.
- In the MAVORIC phase III RCT mogamulizumab showed significantly higher efficacy compared to vorinostat, with an ORR of **28% and 5%** respectively, and median progression-free survival of **7.7 and 3.1 months** respectively.
- Common grade 3 or higher adverse events included rash and infusion reactions with mogamulizumab, and diarrhea and fatigue with vorinostat.



Conclusion

Mogamulizumab showed a higher pooled response rate in single-arm trials, further confirming the findings of MAVORIC trial, supporting mogamulizumab as a treatment option in relapsed/refractory CTCL. However, given the limited evidence, further RCTs are required.



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