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Magrolimab Efficacy and Struggle for Approval in Acute Myeloid Leukemia: A Systematic Review

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INTRODUCTION

Acute myeloid leukemia (AML) is a heterogeneous, complex disease, making treatment strategies essential but often difficult. Our systematic review focuses on the role of Magrolimab, an anti-CD47 antibody, in AML.

METHOD

A comprehensive literature search was performed on PubMed, Cochrane, and ClinicalTrials.gov using MeSH terms and keywords for “acute myeloid leukemia” and “Magrolimab.” After primary and secondary screening, we included 3 original trials

RESULTS

- 213 patients from 2 Phase 1b trials and 1 Phase 1b/2b trial were included in this review. The median age was 72.5 (31-89) years, with males representing 51% of the cohort.
- Daver et al (2022) reported outcomes for 74 patients. All received magrolimab in combination with venetoclax and azacitidine. The overall response rate (ORR) was 80% in de novo AML, 74% in TP53 mutated, and 93% in TP53 wild-type patients. Complete remission (CR) and complete remission with incomplete blood count recovery (CRi) in TP53 mutated were 41% and 57%, while in TP53 wild type they were 63% and 86%.
- Sallman et al reported 52 patients. ORR was 65%, CR 44%, Cri 12%, partial response (PR) 3%, morphologic leukemia-free state (MLFS) 6%, stable disease (SD) 32%, and progressive disease (PD) 3%. The time to response was 20.4 months. In the TP53 mutated cohort, the ORR, CR, CRi, MLFS, SD, and PD rates were 71%, 48%, 19%, 5%, 24%, and 5%, respectively. Median overall survival was 12.9 months for TP53 mutated patients and 18.9 months for TP53 wild-type patients.
- Daver et al (2023) reported outcomes in 87 previously untreated patients who received azacitidine and magrolimab. The ORR, CR, CRi, MLFS, and SD rates were 47.1%, 32.2%, 5.7%, 2.3%, and 20.7%, respectively. The median overall survival was 10.8 months. In the TP53 mutated cohort, the ORR, CR, CRi, MLFS, SD, and PD rates were 48.6%, 33%, 8.3%, 1.4%, 16.7%, and 5.6%, respectively. Major side effects included diarrhea (48.3%) and febrile neutropenia (46.2%).

CONCLUSIONS

The role of Magrolimab in AML is under scrutiny. Further investigation is necessary to understand the lack of reproducibility of Phase 1 and 2 trial results in Phase 3 trial, resulting in the discontinuation of these studies

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