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Immunotherapy Revealing Promising Outcomes in Smoldering Myeloma: A Systematic Review

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INTRODUCTION

Smoldering multiple myeloma (SMM) is an asymptomatic state of proliferation of plasma cells. Immunotherapy is a novel and promising treatment for numerous types of cancers.

However, the use of immunotherapy including CAR-T and bispecifics in SMM is currently under study.

AIM

We aim to review the outcomes of immunotherapy in SMM.

METHOD

- A systematic review was conducted following PRISMA guidelines.
- A literature search was performed utilizing the following databases: PubMed, Embase, and Clinicaltrial.gov.
- MeSH terms were “smoldering multiple myeloma” or “SMM” and “immunotherapy”.
- Inclusion criteria were defined as randomized clinical trials in phase II and III, published in English from 2015 onwards, which included patients with SMM receiving immunotherapy and reported outcomes of overall survival and progression-free.

RESULTS

- 475 studies were identified with the MeSH terms.
- Seven clinical trials met inclusion criteria.
- Total of 294 patients enrolled.

Therapies	# Patients enrolled	Outcomes	Results	Author, Year
Siltuximab (Anti IL-6 Ab)	74	PFS (1-year)	84.5% vs 74%	Brightonat al., 2017
Ixazomib, lenalidomide, and dexamethasone	61	ORR, CR, VGPR, PR	90.9%, 21.8%, 18.2%, 50.9%	Nadeem et al., 2021
Teclistamab	19	ORR, CR, VGPR, PR	100%, 42%, 25%, 33%	Nadeem et al., 2023
Elotuzumab	31	PFS (2-years)	69%	Jagannath et al., 2018
Isatuximab (anti CD-38) and lenalidomide	61	ORR, PFS, VGPR, PR	89%, 49 months, 25%, 64%	Manasanch et al., 2024
Daratumumab, bortezomib, lenalidomide and dexamethasone	38	MRD-negativity at 1 year, ORR	65%; ORR is 100%: 43% CR, 34% VGPR and 17% PR	Magidson et al., 2023
Elotuzumab, lenalidomide, and dexamethasone	51	PFS 2 years, CR, VGPR, PR, MR	88.7%, 7%, 32%, 48%, 13%	Sklavenitis et al., 2022

PFS; Progression Free Survival, ORR; Overall Response Rate, CR; Complete Response, VGPR; Very Good Partial Response, PR; Partial response, MRD; Minimal Residual Disease

CONCLUSIONS

- The use of immunotherapy in patients with SMM has shown to improve PFS/RFS and prevent progression to overt myeloma.
- However, further research is required to ascertain its safety and support its inclusion in clinical guidelines.

REFERENCES

Brighton T, et al. A phase 2, randomized, double-blind, placebo-controlled, multicenter study of siltuximab (anti IL-6 monoclonal antibody) in patients with high-risk smoldering multiple myeloma. Blood. 2017;130(Suppl 1):3155

Nadeem O, et al. A phase II trial of the combination of ixazomib, lenalidomide, and dexamethasone in high-risk smoldering multiple myeloma. Blood. 2021;138(Suppl 1):2749.

CONTACT INFORMATION