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Comparative Effectiveness and Safety Profile of Daratumumab-Based Quadruplet Induction Therapy Versus Triplet Therapy in Transplant-Eligible Newly Diagnosed Multiple Myeloma: A Meta-analysis

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INTRODUCTION

Treatment landscape of multiple myeloma is evolving with novel therapeutic agents. Individual trials suggest that quadruplet therapy, including the anti-CD38 agent daratumumab—improves PFS and OS. However, data is limited to comprehensively assess the overall advantage.

AIM

Our meta-analysis aim to pool the available evidence and provide an understanding of the clinical outcomes of daratumumab-based quadruplet therapy in transplant eligible patients with newly diagnosed multiple myeloma in the first -line setting.

METHOD

- Literature search conducted on online databases including MEDLINE (PubMed), Embase, SCOPUS, and the Cochrane CENTRAL.
- Search spanned from inception of databases to February 2024.

Primary Outcomes:

- Progression free survival
- Tumor Response

Secondary Outcomes

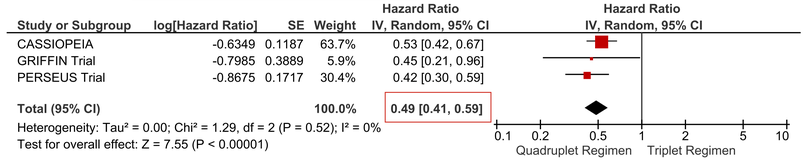
- MRD Assessment
- Adverse event profile

Pooled risk ratios (RR), odds ratios (OR) and hazard ratios (HR) with 95% CI calculated using random-effects model.

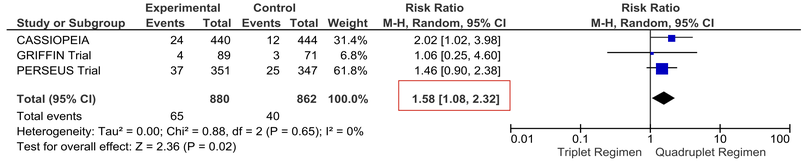
RESULTS

Characteristics	Quadruplet Regimen (n = 901)	Triplet Regimen (n =901)
Age, years		
Median, range	59 (22–70)	60 (26–70)
Gender		
Male	530	519
Female	371	382
Performance score		
0	512	530
1	338	332
2	46	65
ISS disease stage		
I	424	399
II	355	376
III	141	123
Cytogenetics classification		
High risk	175	162
Standard risk	703	723
Indeterminate	23	16
Median time since initial diagnosis of myeloma		
Month, range	0.81 (0.0–48.6)	0.91 (0.0–184.0)

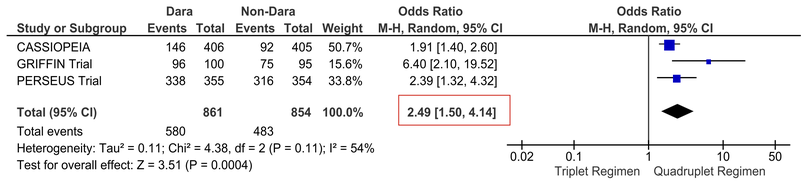
Progression Free Survival



Risk of Second Primary Malignancy



Complete Response or Better



CONCLUSIONS

Evidence supports daratumumab-based induction therapy for newly diagnosed multiple myeloma, offering improved treatment responses with a comparable safety profile. The increased risk of second primary malignancies associated with daratumumab use needs further exploration with robust data.

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