GLP-1 Receptor Agonists and SGLT2 Inhibitors in Multiple Myeloma and Plasma Cell Disorders: Protective, Harmful, or Both? A Scoping Review

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BACKGROUND

GLP-1 receptor agonists (GLP-1RAs) and SGLT2 inhibitors (SGLT2i) are increasingly prescribed for type 2 diabetes and obesity — conditions common in patients with hematologic malignancies.

Obesity is an established risk factor for multiple myeloma (MM), acting through bone-marrow adipocyte expansion, adipokine dysregulation, and IGF-1 signaling implicated in MGUS-to-MM progression — pathways that are potential targets of metabolic therapies. Their effect on MM risk and outcomes has not been synthesized.

OBJECTIVE

To map the evidence on GLP-1RAs and SGLT2i and their association with myeloma incidence, MGUS-to-MM progression, and outcomes in plasma cell disorders.

METHODS

Scoping review of PubMed, Embase, Cochrane, Google Scholar, and ClinicalTrials.gov through April 2026.

Of 1,129 records, 12 studies met inclusion criteria — 9 observational cohorts, 2 network meta-analyses, and 1 conference abstract.

3 mechanistic / background studies were included to contextualize findings.

CONCLUSIONS

GLP-1RA use is consistently associated with lower MM incidence and reduced MGUS-to-MM progression.

SGLT2i data are conflicting, with discordant mortality signals that warrant cautious interpretation. Effects may differ by agent (tirzepatide vs dulaglutide).

All evidence is observational. Prospective studies are needed to clarify the safety and therapeutic implications of these agents in plasma cell disorders.

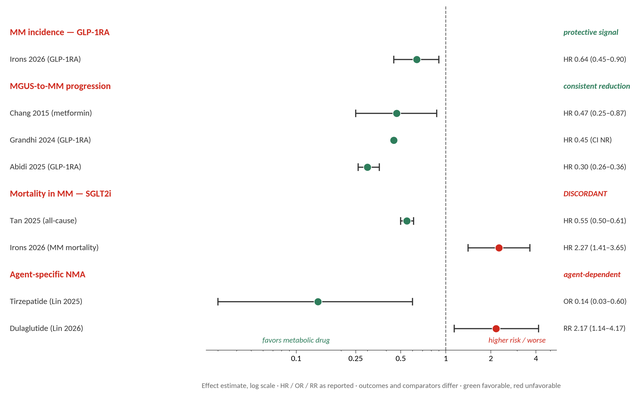
RESULTS

KEY MESSAGE

**GLP-1 receptor agonists are consistently associated with lower myeloma incidence and reduced MGUS-to-MM progression.
SGLT2 inhibitor data are conflicting and effects differ by agent — all observational, needing prospective validation.**

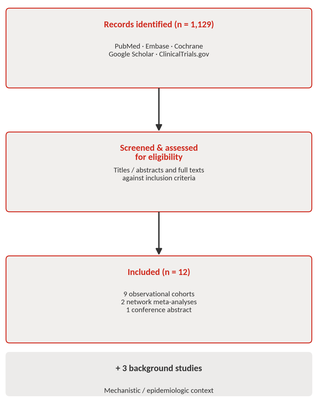
1,129	12	HR 0.64	3 studies
records screened	studies included	MM incidence (GLP-1RA)	↓ MGUS-to-MM progression

Reported associations by drug and outcome (not pooled)



Effect estimate, log scale · HR / OR / RR as reported · outcomes and comparators differ · green favorable, red unfavorable

Study selection (PRISMA)



Interpretation

GLP-1RAs — protective association

Consistently linked to lower MM incidence and less MGUS-to-MM progression across cohorts.

SGLT2i — conflicting

Opposite mortality signals across studies (HR 0.55 vs 2.27); no clear direction.

Effects differ by agent

Tirzepatide lower risk; dulaglutide higher risk. Not confirmed in randomized-trial data.

All evidence is observational — associations, not causation. Prospective studies are needed.

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