



P1.259: Is Chemotherapy Necessary With Pembrolizumab in PD-L1 ≥50% Metastatic NSCLC?

A Real-World Meta-Analysis of Efficacy

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INTRODUCTION

- Pembrolizumab monotherapy and pembrolizumab plus chemotherapy are **established first-line options** for PD-L1 ≥50% metastatic non-small cell lung cancer (mNSCLC).
- No randomized trial has directly compared these strategies**, leaving the optimal approach uncertain.
- Previous meta-analyses have largely relied on **indirect trial comparisons**, limiting their applicability to routine clinical practice.

OBJECTIVE: To compare the real-world effectiveness of these first-line strategies in PD-L1 ≥50% mNSCLC.

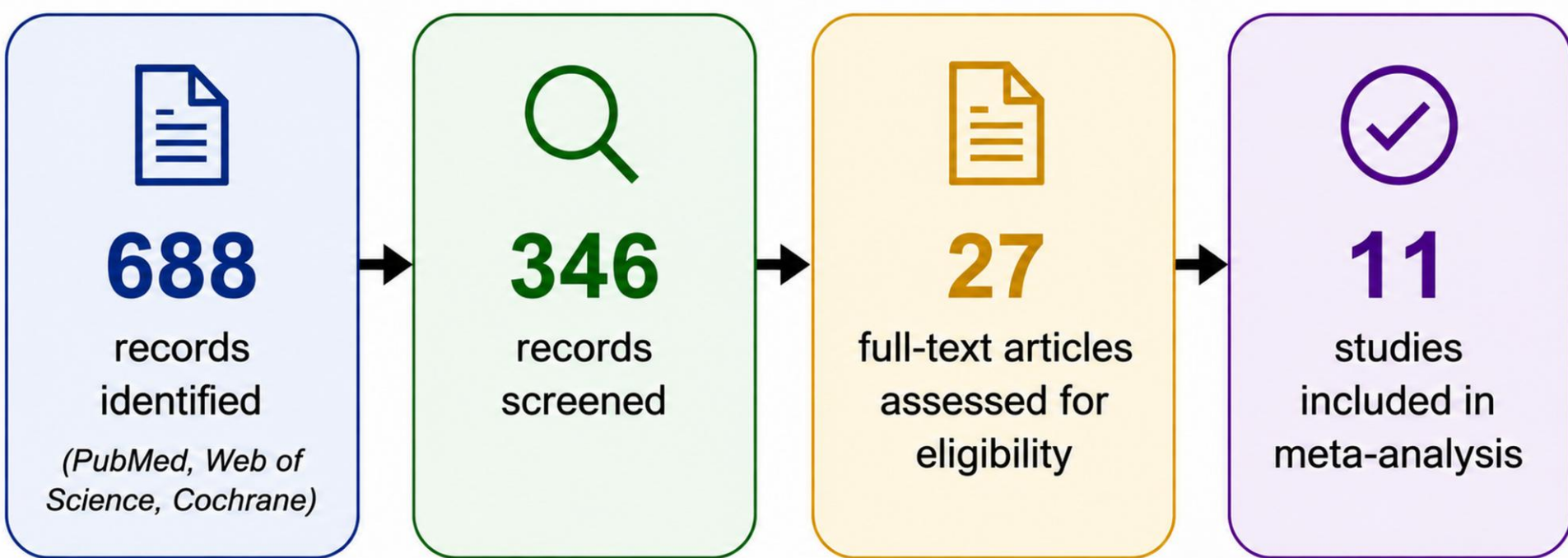
METHODS

- PRISMA 2020**–compliant systematic review and meta-analysis
- PubMed, Web of Science and Cochrane Library → **March 1, 2026**
- Real-world direct comparisons** of pembrolizumab with and without chemotherapy in PD-L1 ≥50% mNSCLC
- Random-effects pooling of **hazard ratios (HRs)** and **risk ratios (RRs)**

OUTCOMES

- Primary:** Overall survival (OS)
- Secondary:** Progression-free survival (PFS), objective response rate (ORR), early mortality (≤6 months), grade ≥3 adverse events (AEs)

STUDY SELECTION



DISCUSSION AND CONCLUSION

KEY MESSAGE

- ✓ In PD-L1 ≥50% mNSCLC, adding chemotherapy to pembrolizumab improved response rates without a significant OS or PFS benefit, supporting individualized rather than routine chemotherapy use.

CLINICAL IMPLICATION

- ✓ The higher ORR with combination therapy may favor its use when **rapid tumor shrinkage is a clinical priority**.

FUTURE DIRECTION

- ✓ Prospective head-to-head studies are needed to identify **which patients derive meaningful benefit from chemotherapy addition**.

REFERENCES & ACKNOWLEDGEMENTS

REFERENCES

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Artificial Intelligence (AI) Use Disclaimer

Generative AI (ChatGPT, OpenAI) was used to assist with the development and refinement of R code for statistical analyses. All analyses, outputs, and interpretations were independently reviewed and verified by the authors.

Scan for the complete reference list

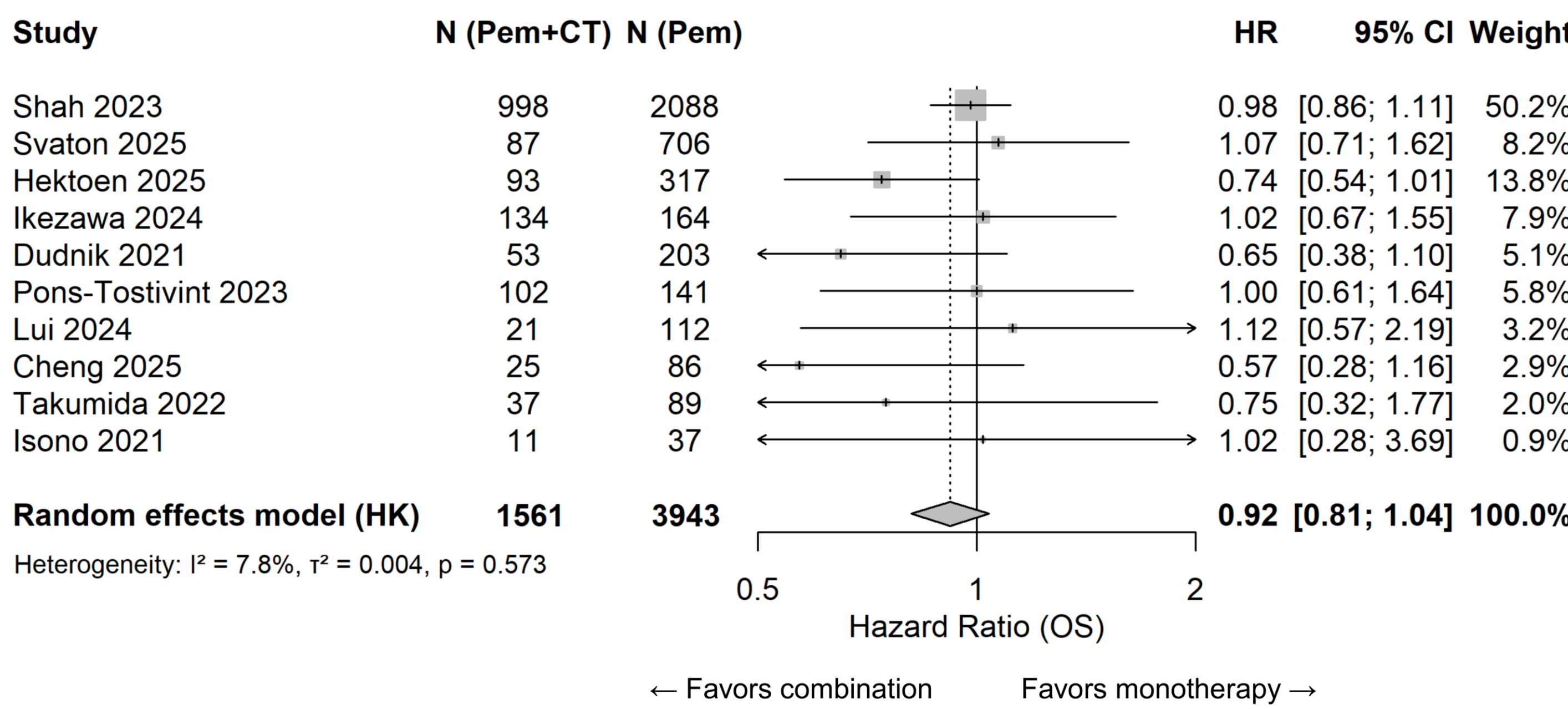


RESULTS

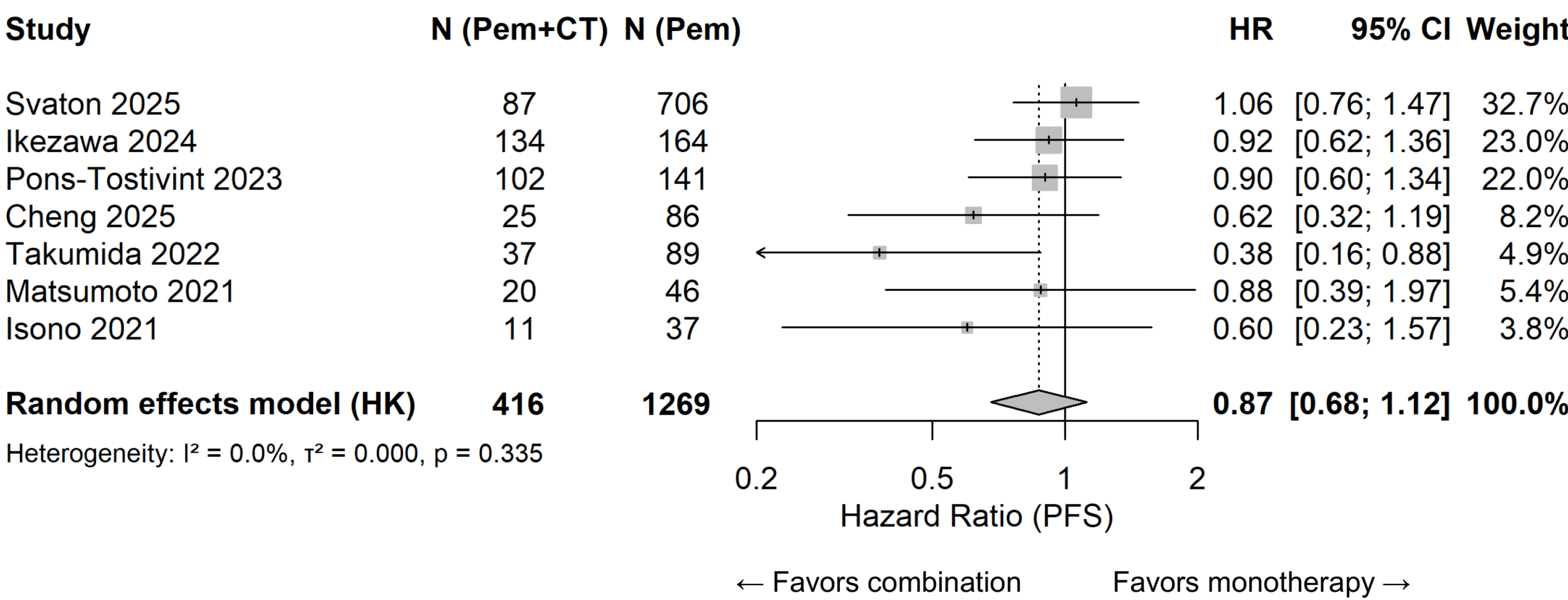
11 real-world studies | **N = 5,570**

Pembrolizumab: **n = 3,989** | Pembrolizumab + chemotherapy: **n = 1,581**

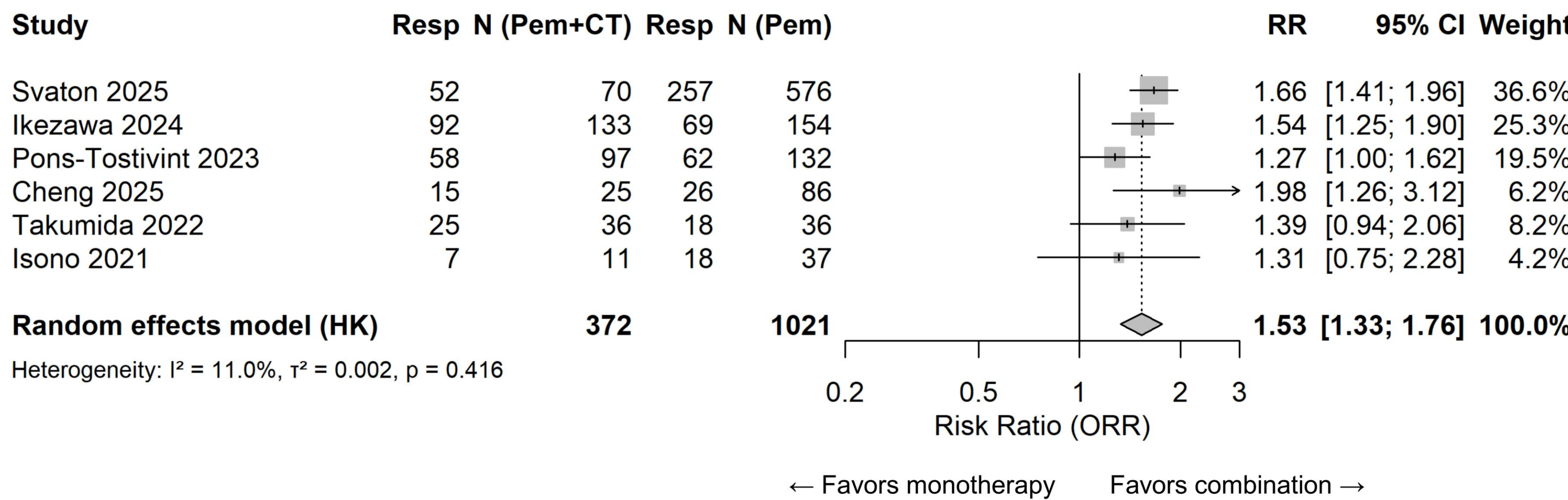
OVERALL SURVIVAL – PRIMARY ENDPOINT



PROGRESSION-FREE SURVIVAL



OBJECTIVE RESPONSE RATE



SENSITIVITY ANALYSES

- Excluding largest study: **OS HR 0.86 (95% CI 0.72–1.02)**
- Adjusted estimates only (n = 6 studies): **OS HR 0.94 (95% CI 0.83–1.07)**

OTHER OUTCOMES

- Early mortality (≤6 months): **HR 0.59 (95% CI 0.34–1.04)**
- Grade ≥3 AEs: **RR 1.06 (95% CI 0.76–1.47)**

EXPLORATORY OS SUBGROUP ANALYSES

- Age (<75 vs ≥75 y): **No evidence of interaction ($P_{\text{int}} = 0.97$)**
- ECOG PS (0–1 vs ≥2): **Potential interaction ($P_{\text{int}} = 0.024$)**