

Effects of Pembrolizumab on Cognitive Outcomes in Alzheimer’s Disease: A Meta-Analysis of Phase III Randomized Controlled Trials

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Nitesh Kumar Karna¹, Akshyata Osti¹, Popular Pokhrel¹, Nitesh Neupane¹, Gopal Pokhrel¹.

¹B.P. Koirala Institute of Health Sciences, Dharan, Nepal, Dharan, Nepal

Key Takeaway: Pembrolizumab was associated with modest but statistically significant improvements in cognitive outcomes, supporting immune checkpoint inhibition as a promising therapeutic strategy for Alzheimer's disease.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	CORRESPONDANCE
• PD-1 inhibition may reduce neuroinflammation and enhance amyloid clearance. • Cognitive efficacy remains uncertain. • Meta-analysis evaluated Phase III RCT evidence.	• PubMed, Embase, Scopus, CINAHL & Cochrane searched through Dec 2025. • 12 Phase III RCTs (n=5,921). • Random-effects meta-analysis. • ORs for cognitive deterioration; MDs for cognitive scores. • Egger's test assessed publication bias.	• Cognitive deterioration reduced: OR=0.89 (95% CI 0.78–0.99), P<0.01. • Cognitive scores improved: MD=1.85 (95% CI 0.75–2.95), P<0.01. • No evidence of publication bias.	• Pembrolizumab provides modest but significant cognitive benefits. • Supports immune checkpoint inhibition as a promising therapeutic strategy. • Larger confirmatory studies are warranted.	Nitesh Kumar Karna B.P. Koirala Institute of Health Sciences Dharan, Nepal. P.O. Box No.7053 niteshkumarkarna2022@bpk ihs.edu.np DISCLOSURE The author declares no other conflicts of interest related to this work. ALZHEIMER'S ASSOCIATION AAIC>26