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Promising Role of Temelimab in Multiple-Sclerosis Treatment

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Statement of the Problem: Multiple Sclerosis (MS) is a chronic debilitating neurological disease resulting in immune-mediated demyelination of nerve fibers and neurons that leads to disruption of brain-body communication. MS-associated retrovirus envelope protein (MSRV-Env) has a significant role in the pathogenesis of MS. MSRV-Env show pro-inflammatory properties and potential brain remyelination impairment. Temelimab is a humanized IgG4 monoclonal antibody (mAb) that targets the MSRV-Env protein and neutralizes its action. The objective of this research article is to evaluate the safety and efficacy of Temelimab in MS patients. Methodology & Theoretical Orientation: A systemic search was conducted from three electronic databases; PubMed/Medline, Cochrane Library, and Google Scholar. The statistical analysis was conducted in Review Manager 5.4.1. The studies comparing Temelimab therapy to inactive control were selected. Random-effect model was used to pool the studies, and the result was reported in the risk ratio (RR) with corresponding 95% Confidence interval (CI). Findings: Results: Phase I, Phase II-a and Phase II-b trials demonstrate the safety and effectiveness of Temelimab. Our analysis showed statistically non-significant Risk Ratio (RR) of adverse events in Temelimab group than that in placebo group (1.01 [0.70,1.46]; p-value= 0.94; I2= 0%). Considering the effect of Temelimab on brain lesions, pooled result showed statistically significant Risk Ratio (RR) of brain lesions in placebo group than that in Temelimab group (0.75 [0.69,0.81], p-value < 0.00001, I2 = 0%). Conclusion & Significance: Qualitative and quantitative analysis of the trials assessing the safety and efficacy of Temelimab demonstrate that the drug is safe as well as favorable for use in MS patients. Temelimab is found to reduce the progression of brain lesions and atrophy and lowering the relapse rate. Temelimab is the next step in the treatment of MS.

Biography

Shayan Ali Irfan has expertise in Meta-analysis and systematic review. He is a final year medical student, who have worked in large number of research predominantly meta-analysis. He is a statistics expert. He worked in uplifting the research awareness and research standard among Pakistani medical student in collaboration with various local and international organization.