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Innovative monoclonal Antibodies in Generalized Myasthenia Gravis: a protocol for Bayesian Network Analysis

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 July 2023 and was last updated on 04 August 2023.

INTRODUCTION

Review question / Objective To investigate the efficacy and safety of the monoclonal antibodies for the treatment of generalized myasthenia gravis in adults.

Condition being studied Several randomized controlled trials had demonstrated the efficacy and better tolerance of new monoclonal antibodies in adults with generalized myasthenia gravis, however the evidence of efficacy and safety was inconclusive.

METHODS

Search strategy Electronic database were searched for the randomized controlled trials before 1 June 2023.

Participant or population Patients was diagnosed as generalized myasthenia gravis according to the MGFA score of II to V.

Intervention The eligible patients received different monoclonal antibodies.

Comparator The patients received placebo.

Study designs to be included RCTs.

Eligibility criteria Reviews, observation studies, case reports, were excluded.

Information sources PubMed, Embase, Cochrane library, and clinicaltrials.gov.

Main outcome(s) MG-ADL score, QMG score, AEs.

Additional outcome(s) MGC score, MG-QOL score, SAEs and all-caused mortality.

Quality assessment / Risk of bias analysis Quality of evidence in our network meta-analysis was assessed using GRADE approach.

Strategy of data synthesis Mean difference (MD) with their 95% confidence intervals (95%CIs) were used to show effect size of continuous variables, while risk ratio (RR) with their 95%CIs were used to show effect size of categorial variables. Statistical heterogeneity between trials was estimated by I2 statistics. NMA was performed based on a Bayesian framework using the 'gemtc' package of the R software environment version 4.2.2 (26053422).Dichotomous and continuous outcomes were analyzed using lnRR and mean difference with their 95% credible interval (95%CrIs), respectively. The selection of fixed or random model effect was based on the outcome of I2 statistics.The publication bias was checked by generating funnel plots using STATA 17.0 (24098547), and an asymmetric distribution of the funnel plot indicates a significant publication bias.

Subgroup analysis NA.

Sensitivity analysis Mean difference, risk ratio and lnRR with their 95%CIs were analyzed and the $P<0.05$ showed the significant difference.

Language restriction Only in English.

Country(ies) involved China.

Keywords Generalized myasthenia gravis; Innovative monoclonal antibodies.

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