INPLASY PROTOCOL

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Conflicts of interest:
None.

The efficacy and safety of remdesivir on COVID-19: analysis of randomized controlled trials

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Review question / Objective: **Remdesivir is an inhibitor of the viral RNA-dependent could cause premature RNA chain termination, and has been identified as candidate treatment for COVID-19 by WHO. But, the therapeutic effect of remdesivir is controversial. We clarified whether remdesivir is safe and effective.**
Condition being studied: **Remdesivir is an inhibitor of the viral RNA-dependent could cause premature RNA chain termination, and has been identified as candidate treatment for COVID-19 by WHO. But, the therapeutic effect of remdesivir is controversial. We clarified whether remdesivir is safe and effective.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 June 2020 and was last updated on 13 June 2020 (registration number INPLASY202060046).

INTRODUCTION

Review question / Objective: **Remdesivir is an inhibitor of the viral RNA-dependent could cause premature RNA chain termination, and has been identified as candidate treatment for COVID-19 by WHO. But, the therapeutic effect of remdesivir is controversial. We clarified whether remdesivir is safe and effective.**

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and has been identified as candidate treatment for COVID-19 by WHO. But, the therapeutic effect of remdesivir is controversial. We clarified whether remdesivir is safe and effective.

METHODS

Search strategy: We searched PubMed, Embase, and Cochrane Central Register of Controlled Trials, from their inception to June 11, 2020, for RCTs on the relationship between COVID-19 and Remdesivir.

Participant or population: COVID-19 patient.

Intervention: Remdesivir.

Comparator: Patient with placebo.

Study designs to be included: randomized controlled trial.

Eligibility criteria: (1) presented original data from a RCT; (2) used two comparator groups in which one group received remdesivir and the other received placebo; (3) reported number of the hospital discharged patients, death and adverse events as outcomes; and (4) had adequate data to be pooled for the analysis.

Information sources: PubMed, Embase, and Cochrane Central Register of Controlled Trials.

Main outcome(s): The main outcomes included the association of Remdesivir with rate of discharge, mortality, adverse events risk.

Quality assessment / Risk of bias analysis: According to Jadad scale, two studies were both of high quality with score 5.

Strategy of data synthesis: We conducted a meta-analysis to explore the efficacy and safety of remdesivir on COVID-19 patients. We pooled RR and 95% CI from the adjusted RRs and 95% CIs reported in the studies or calculated by chi-squared ($\chi 2$) tests. The Cochran Q and I2 statistics were used to evaluate statistical heterogeneity. When the P-value was >0·1 and the I2 value was <50%, a fixed-effects model14 was used to estimate the overall summary effect sizes. Otherwise, when either the P-value was 50%, the data were considered to be heterogeneous, and a random-effects model (i.e., the DerSimonian and Laird method15) was applied to estimate the overall summary effect sizes. STATA software v12.0 (College Station, TX, USA) was used to analyse the data.

Subgroup analysis: No.

Sensibility analysis: No.

Country(ies) involved: China, USA.

Keywords: COVID-19, remdesiver.

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