INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Evidence Map for the Indirect Effects of CMV Infection on Patients with Allogeneic Hematopoietic Stem Cell transplantation

Wu, XJ[1]; Ma, X[2]; Song, TM[3]; Liu, J[4]; Sun, Y[5]; Wu, DP[6].

Review question / Objective: **To assess the prognosis of CMV infection in patients undergoing their allo-HSCT procedure.**
Background: **Cytomegalovirus (CMV) is cell-associated, and cause of infection and disease in transplant recipients. Cytomegalovirus infection has been a research focus of allogeneic hematopoietic stem cell transplantation (allo-HSCT) and is usually defined by positive pp65 CMV antigenemia assay or by PCR (Polymerase Chain Reaction). CMV infection can lead to poor implantation and death of the transplant recipient. There is a lack of scoping reviews to explore the association of CMV infection with patient prognosis.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 November 2022 and was last updated on 08 November 2022 (registration number INPLASY2022110032).

INTRODUCTION

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transplant recipient. There is a lack of scoping reviews to explore the association of CMV infection with patient prognosis.

Rationale: Since CMV infection often occurs after allogeneic hematopoietic stem cell transplantation, determining whether it affects patient outcome is an issue worthy of further investigation. However, existing studies lack a systematic review of key outcomes (i.e. all-cause mortality, non-recurrent mortality (NRM), graft-versus-host disease (GVHD), neutropenia, etc). Therefore, a comprehensive review of current prognostic studies is needed to confirm the relationship between CMV infection and key outcomes, for example. Here, we plan to conduct a scoping review based on the available evidence.

METHODS

Strategy of data synthesis: Where possible, we will use bubble plot to present the evidence mapping (Appendix 5 for an example). Included trials will be coded according to level of study (systematic reviews as high-level evidence, cohort studies as low-level evidence), number of studies, total sample size, different outcomes and outcome findings (statistically increase the risk of predefined outcomes, no difference, statistically lower the risk of predefined outcomes, or inconsistent findings).

Eligibility criteria: Patients undergoing allogeneic transplants will be enrolled in the study. The prognostic factor we focused on will be CMV infection/disease or other synonyms. Key outcomes will include all-cause mortality, non-relapse mortality, hematologic disease relapse, graft versus host disease, invasive fungal disease, neutropenia, renal dysfunction, graft dysfunction, re-hospitalization and bacterial infections. We will include data from published literatures (systematic review or cohort studies). While conference abstracts or grey literatures will not be included as their data were not peer-reviewed.

Source of evidence screening and selection: Two independent reviewers will screen the search results. All potentially relevant citations will be requested and inspected in detail via the full text version. Disagreements will be resolved by discussion, with the assistance from a third party if necessary. A PRISMA flow diagram will be constructed to show the full study-selection process. We will identify the companion reports from the same study by viewing the registered trial number or the study author team, and characteristic of participants (sample size and recruitment time period and settings). Once the study population are considered as the same, we will collect all reports and compare their data, then remove duplicated data.

Data management: After screening by full text, all studies meet the inclusion criteria will be proceed to the data collection stage. Data from included studies will be extracted independently by two separate reviewers using a standardized data extraction form. We plan to data-extract relevant characteristics of all included studies. Any disagreements will be resolved by discussion, with the assistance from a third party if necessary. Where more information relating to a potentially includable study is lacking, we will contact study authors and request further information.

Language restriction: No language restriction of studies.

Country(ies) involved: China.

Keywords: Cytomegalovirus; allogeneic transplantation; mortality; graft dysfunction.

Contributions of each author:

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