International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

GATA2-related myeloid malignancies

INPLASY202520079

doi: 10.37766/inplasy2025.2.0079

Received: 17 February 2025

Published: 17 February 2025

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202520079

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 February 2025 and was last updated on 17 February 2025.

INTRODUCTION

Review question / Objective We aimed to assess disease characteristics, management and prognostic consequence of pediatric GATA2 myeloid neoplasia.

Condition being studied GATA2-related myeloid malignancies in pediatric patients.

METHODS

Search strategy The search strategy was developed using a combination of keywords related to "GATA2 deficiency", "GATA2 mutation", "pediatric GATA2 related MDS/AML" and "hematopoietic stem cell transplantation" and performing PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses).

Participant or population Children and young adults (due to familial aggregation), diagnosed with GATA2-MDS/AML.

Intervention None.

Comparator None.

Study designs to be included Retrospective and prospective cohort studies as well as case-control studies.

Eligibility criteria Eligibility criteria included cohorts with over 10 patients, children and young adults (due to familial aggregation), diagnosed with GATA2-MDS/AML. Studies that provided data on GATA2 genotype, phenotype, disease management and treatment were included.

Information sources We conducted a systematic review following the PRISMA guidelines to evaluate the role of GATA2 mutations in pediatric MDS/AML that were published in international databases (PubMed, Scopus, Web of Science).

Main outcome(s) Data extraction searched for details on epidemiology, clinical features, disease

subtype followed by studies addressing hematopoietic stem cell transplantation (HSCT) guidelines and complications, transplant related toxicity (TRT) and mortality (TRM), prognosis and outcomes.

Quality assessment / Risk of bias analysis Very few papers on the subject, no statistical significance due to low number of patients, different study designs.

Strategy of data synthesis Review will be based in studies that provided data on GATA2 genotype, phenotype, disease management and treatment were included.

Subgroup analysis None.

Sensitivity analysis Based on data statistical significant analysis of each selected study.

Language restriction Only English.

Country(ies) involved Romania.

Keywords "GATA2 deficiency", "GATA2 mutation", "pediatric GATA2 related MDS/AML" and "hematopoietic stem cell transplantation".

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