

INPLASY

Infectious complications of Stevens Johnson syndrome and toxic epidermal necrolysis

INPLASY202410124

doi: 10.37766/inplasy2024.1.0124

Received: 30 January 2024

Published: 30 January 2024

Stewart, TJ¹; Shah, H²; Frew, JW³.

Corresponding author:

Thomas Stewart

thomas_stewart@live.com

Author Affiliation:

University of New South Wales.

ADMINISTRATIVE INFORMATION

Support - N/A.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202410124

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 January 2024 and was last updated on 30 January 2024.

INTRODUCTION

Review question / Objective 1) To collate and describe observational studies of infectious complications in adult patients diagnosed with Stevens Johnson syndrome or toxic epidermal necrolysis 2) To determine the prevalence and risk factors of infectious complications in adult patients diagnosed with Stevens Johnson syndrome or toxic epidermal necrolysis 3) To analyze the heterogeneity of published studies and assess the viability of meta-analysis.

Rationale It is well established that SJS and TEN patients are at risk for developing skin infections and bacteremia however other infections and the risk factors for infectious sequelae in this population has received limited attention in the literature. To date, no systematic analysis of infectious complications in SJS and TEN patients has been published.

Condition being studied Stevens Johnson syndrome, toxic epidermal necrolysis Infections (bacterial, fungal, viral, parasitic).

METHODS

Search strategy

Terms
Stevens Johnson Syndrome OR Toxic Epidermal Necrolysis OR epidermal necrolysis OR SJS OR TEN or Lyell syndrome
AND complication OR sequelae OR risk factor OR predictor
AND infection OR bacteremia OR sepsis OR bacteria OR microbe OR virus OR fungus OR parasite
Databases
- Pubmed
- Scopus
- Europe PMC
- Embase.

Participant or population Adult patients with Stevens Johnson syndrome or toxic epidermal necrolysis.

Intervention Nil.

Comparator Nil.

Study designs to be included Cohort, cross-sectional, case-control, case series.

Eligibility criteria Eligible studies included those reporting the prevalence (with or without risk factors) for infectious complications in adult patients diagnosed with SJS and TEN.

Information sources Electronic databases

- Pubmed
- Embase
- Scopus
- Europe PMC.

Main outcome(s) Prevalence infectious complications in adult patients diagnosed with Stevens Johnson syndrome or toxic epidermal necrolysis.

Additional outcome(s) Risk factors of infectious complications in adult patients diagnosed with Stevens Johnson syndrome or toxic epidermal necrolysis.

Data management This systematic review was conducted in accordance with PRISMA guidelines. The STROBE statement was used to assess the observational studies in this review.

Data collection was performed independently by two authors (TJS and HS), with any disagreements regarding inclusion of citations being referred to a third author (JWF) for mediation. Information was collected using a standardised data collection form with the principal outcomes of interest being infectious complications, their risk factors and causative organism/s. If data from individual patients was not available, then the aggregate data was collected.

Quality assessment / Risk of bias analysis

Quality assessment/risk of bias analysis will be assessed using the NIH quality assessment tool.

Strategy of data synthesis Following full-text screening, studies will deemed eligible/ineligible for data extraction. The sample size for cases developing infectious complications will be pooled and the infections reported in more than one study subjected to quantitative analysis. Statistical analyses will be performed with RStudio 4.3.1 (RStudio: Integrated Development for R. RStudio, PBC, Boston, MA URL <http://www.rstudio.com/>) using packages meta 6.5-0 (Schwarzer, 2023) and dmetar (Harrer et al. 2019). Meta-analysis for prevalence will be performed with metaprop

function and presented as a Forest plot. A Funnel plot will be constructed to make a visual representation assessing whether small-study effects are present. Linear regression and Egger's tests will then be used to quantitatively assess for plot asymmetry.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction English.

Country(ies) involved Australia.

Other relevant information Australia

Keywords Stevens Johnson syndrome, toxic epidermal necrolysis, infection, bacteremia.

Dissemination plans Publish in a medical journal Present at medical conference/s.

Contributions of each author

Author 1 - Thomas Stewart - Define inclusion and exclusion criteria; Develop search strategy and locate studies; Select studies; Extract data; Disseminate findings.

Email: thomas_stewart@live.com

Author 2 - Hemali Shah - Define inclusion and exclusion criteria; Develop search strategy and locate studies; Select studies; Extract data; Disseminate findings.

Email: hemali.shah179@gmail.com

Author 3 - John Frew - Formulate the review question; Assess study quality; Analyze and interpret results; Disseminate findings.

Email: jwfrew@gmail.com