Systemic Review on Common Microorganisms Causing Necrotizing Fasciitis using Prisma Method

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INTRODUCTION:

Necrotizing fasciitis (NF) is a devastating skin and subcutaneous tissue infection due to its rapid progression[1]. It is associated with high morbidity and mortality rates[2]. Early diagnosis and antibiotic initiation is crucial in reducing morbidity and mortality rates. This paper aims to highlight the selection of antibiotics for common causative organisms in the local and regional setting in an effort to formulate practice guidelines.

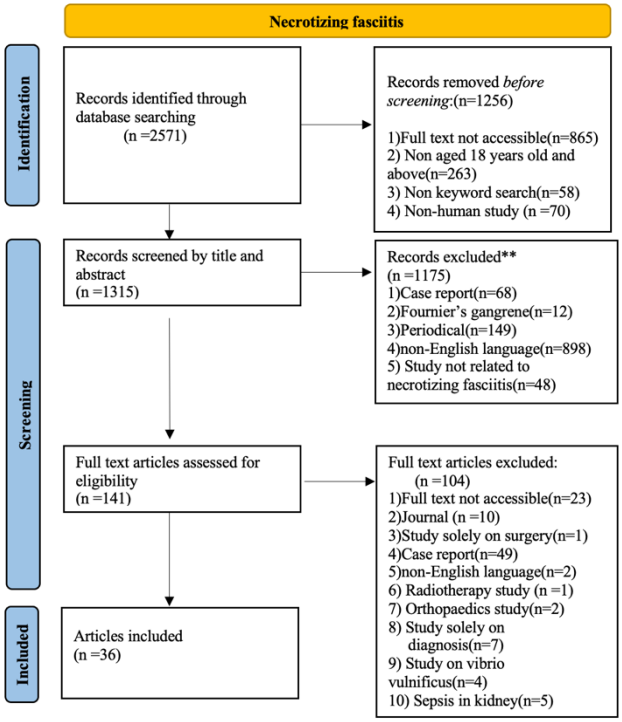
MATERIALS & METHODS:

We conducted a systemic review of NF. Ebscohost, PubMed, and ScienceDirect databases were accessed and published articles from 2001 to 2021 written in English and containing the keyword ‘’necrotizing fasciitis’’ were assessed for eligibility to be included in the study.

RESULTS:

On typing the keyword ‘’necrotizing fasciitis’’ in various research databases, a total of 2571 articles were identified. Based on our exclusion criteria, 2434 articles were excluded. 36 out of the remaining 141 articles, were included in the study. Our study showed that Type I (Polymicrobial) NF is the most common type of NF, followed by Type II (Monomicrobial – Streptococcus pyogenes) NF and Type III (Marine organisms – Vibrio vulnificus and Aeromonas Sp.) NF. The three most common antibiotics prescribed to treat NF is Gentamicin, followed by Flagyl and Penicillin.

Figure 1: Search Strategy



DISCUSSION:

NF is a fatal infectious disease process, with a propensity for immunocompromised individuals. Diabetics being the most susceptible to this fatal infection [2].

CONCLUSION:

NF is a deadly infection with increasing morbidity and mortality rates. Data from our study revealed that the most common type of NF is Type I (Polymicrobial), followed by Type II (Monomicrobial) and Type III (Marine organisms). The three most common antibiotics prescribed to treat NF were Gentamicin, followed by Flagyl and Penicillin. This study acts as an evidence-based prescription practice

to aid in formulating practice guidelines to yield the best outcomes for patients.

REFERENCES:

1. Misiakos E. et al. 2022. *Current Concepts in the Management of Necrotizing Fasciitis*.
2. Gunaratne DA et al. (2018). Cervical necrotizing fasciitis: Systematic review and analysis of 1235 reported cases from the literature. *Head & Neck*, *40*(9), 2094–2102.