Integrative Strategies in the Management of Multidrug-Resistant Mycobacterium Abscessus: A Surgical and Infectious Disease Perspective — A Systematic Review Illustrated by a Case Report

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AIM:

- *Mycobacterium abscessus* is a rapid growing nontuberculous mycobacterium (NTM)
- Increasingly associated with skin and soft tissue infections (SSTIs) [1-2]
- One of the most drug-resistant NTM → significant therapeutic challenges.

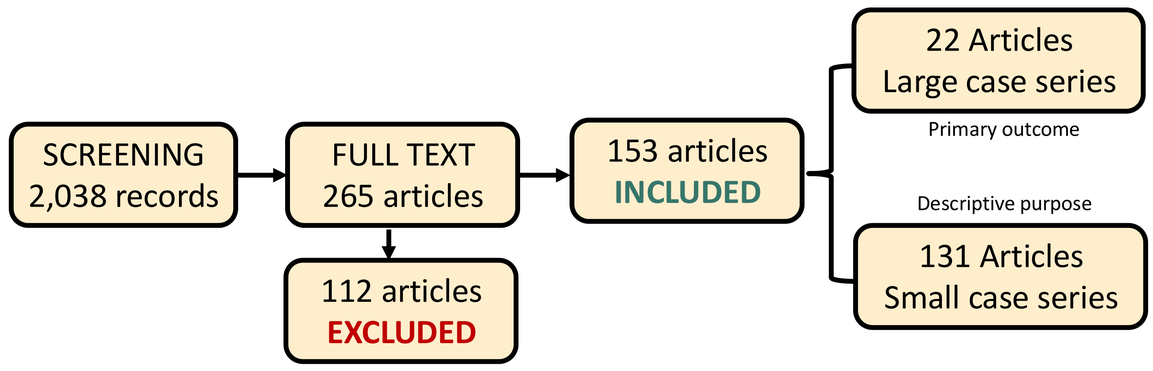
This systematic review aims to evaluate treatment strategies for SSTIs caused by *M. abscessus*. The analysis is illustrated by a challenging case from our institution, highlighting a multidisciplinary approach involving both surgical and infectious disease teams.

METHOD:

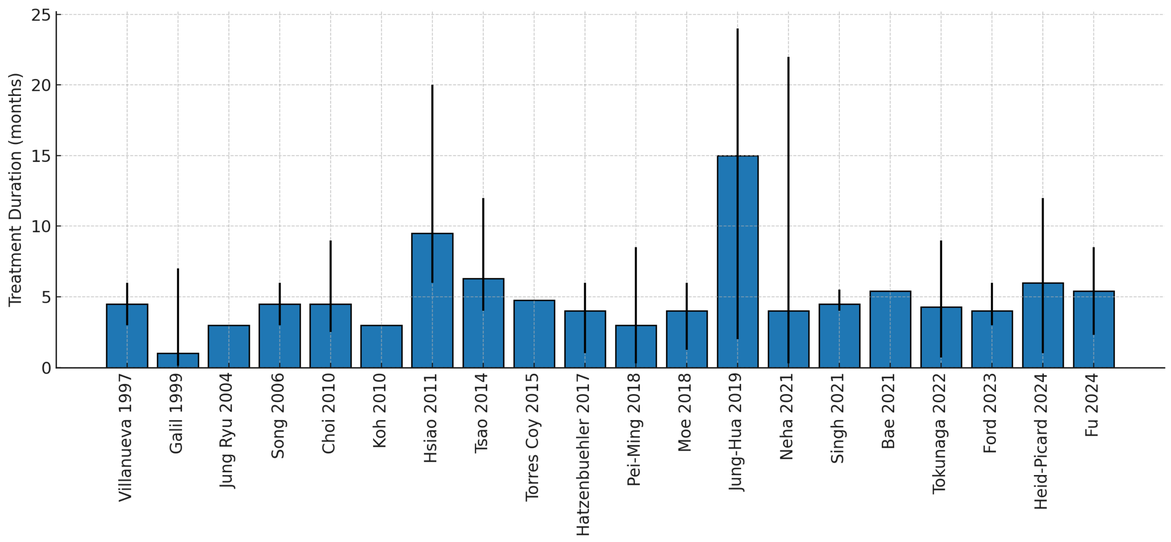
Systematic review of the literature : antibiotic regimens, combination therapies, and surgical strategies.

RESULTS:

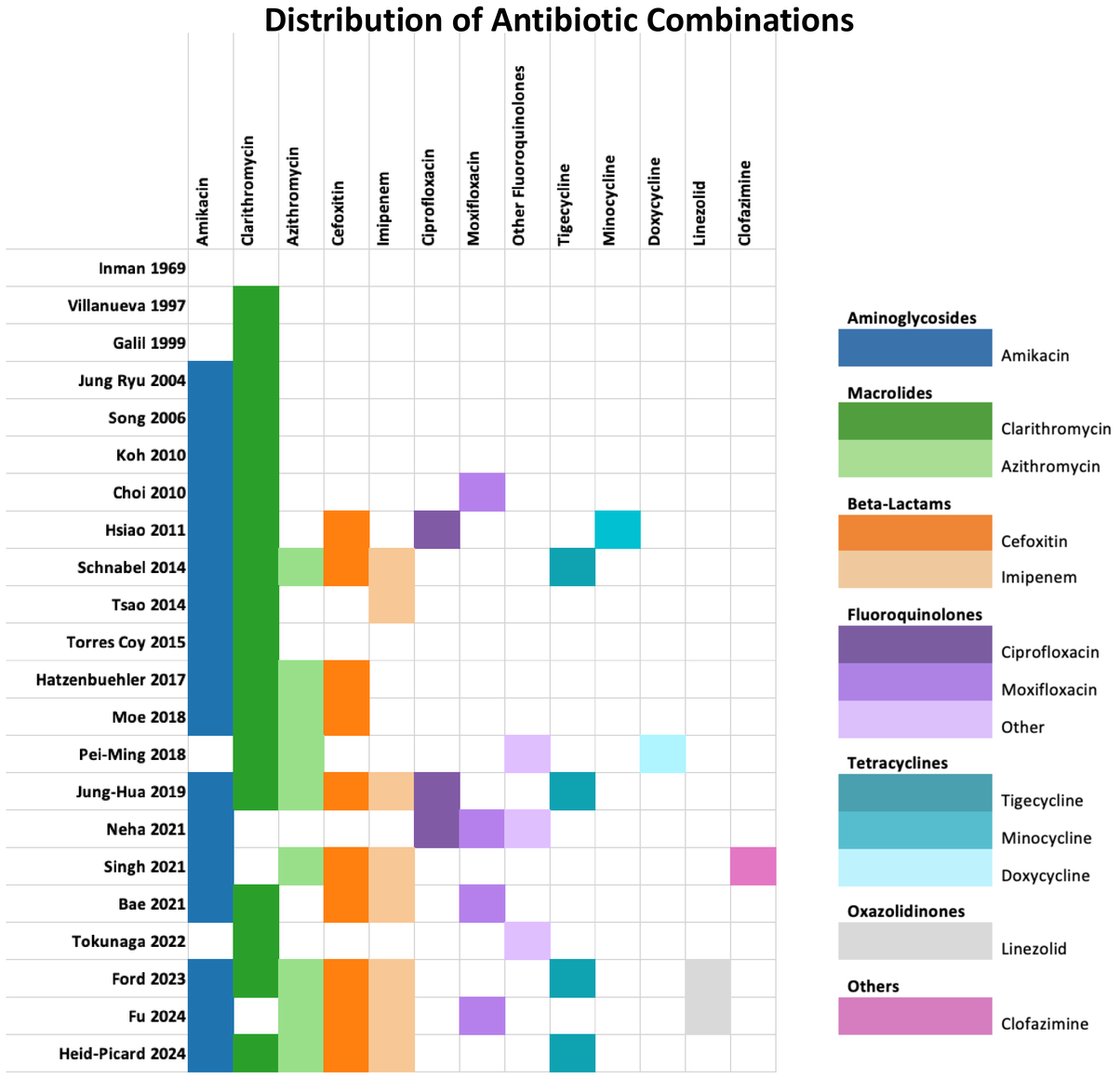
- **Macrolides** used in 91% of studies, of which **clarithromycin 82%**, **azithromycin 41%**. **Amikacin** used in **77% of studies.**
- **Surgical intervention** reported in **82% of studies** and employed adjunctively with antibiotic treatment
- Frequently as part of combination therapy.
- **Cure rates** ranged **from 65% to over 90%**, when medical and surgical therapies combined
- Among studies reporting antibiotic treatment duration, the median was **6 months** (range: 3–19.5 months)



Study-Reported Duration of Antibiotic Therapy



Distribution of Antibiotic Combinations



- 40 y.o.♂ - deep abscess extending to the deltoid muscle following anabolic agent injection
- ATB: IV imipenem, azithromycin, tigecycline and clofazimine → consolidation phase with PO azithromycin + clofazimine PO
- Surgical treatment : 5 surgical debridements → coverage using a local propeller flap
- Infection resolved after six months of therapy.

CONCLUSIONS:

Effective management of *M. abscessus* SSTIs requires a **multidisciplinary approach**, combining prolonged targeted antibiotic therapy with timely surgical intervention.

Given the increasing incidence of this multidrug-resistant pathogen, developing standardized treatment protocols, and fostering multidisciplinary collaboration are essential

[1]J. A. Torres-Coy, B. A. Rodríguez-Castillo, R. Pérez-Alfonzo, and J. H. De Waard, "Source investigation of two outbreaks of skin and soft tissue infection by Mycobacterium abscessus subsp. abscessus in Venezuela," *Epidemiol Infect*, vol. 144, no. 5, pp. 1117–1120, Apr. 2016, doi:10.1017/S0950268815002381.
[2]B. Heid-Picard *et al.*, "Extrapulmonary Mycobacterium abscessus Infections, France, 2012-20201.," *Emerg Infect Dis*, vol. 30, no. 11, Nov. 2024, doi: 10.3201/eid3011.240459.

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