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## Skin and Soft tissue infections - The New Kid on the Block

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## Introduction:

Rapidly growing mycobacterium (RGM) skin and soft tissue infections are increasing in incidence. These infections can be challenging to treat and require multiple antibiotics for prolonged duration.

Here we describe a rare case of a 52-year-old immunocompetent male with Mycobacterial septicum wound infection.

## Case Presentation:

52-year-old male with known medical history of hypertension and end-stage renal disease on dialysis, was referred to Infectious disease (ID) clinic for multiple skin lesions.

He initially noticed lesions near his right elbow and right leg and foot. These lesions started as tender, erythematous papules and progressed to pustules with serosanguinous discharge over 2-weeks (Image 1a). He denied working with fish/aquarium, receiving pedicures or any trauma to his extremities. Physical exam demonstrated draining lesions on his right dorsal foot and right elbow. No lymphadenopathy noted. No issues with his dialysis access. Wound cultures were sent along with right foot shave biopsy for histopathology and cultures (bacterial, fungal and AFB). Pathology result demonstrated suppurative and granulomatous dermatitis and AFB cultures isolated Mycobacterium Septicum (Images 2a and 2b). He was started on oral azithromycin, levofloxacin, doxycycline and trimethoprim-sulfamethoxazole.

Once antimicrobial susceptibilities were finalized (Figure 1), only levofloxacin Q48hrs and PO trimethoprim-sulfamethoxazole BID Q48hrs were continued with improvement noted on subsequent follow up visits (image 1b).

## Images and figures:

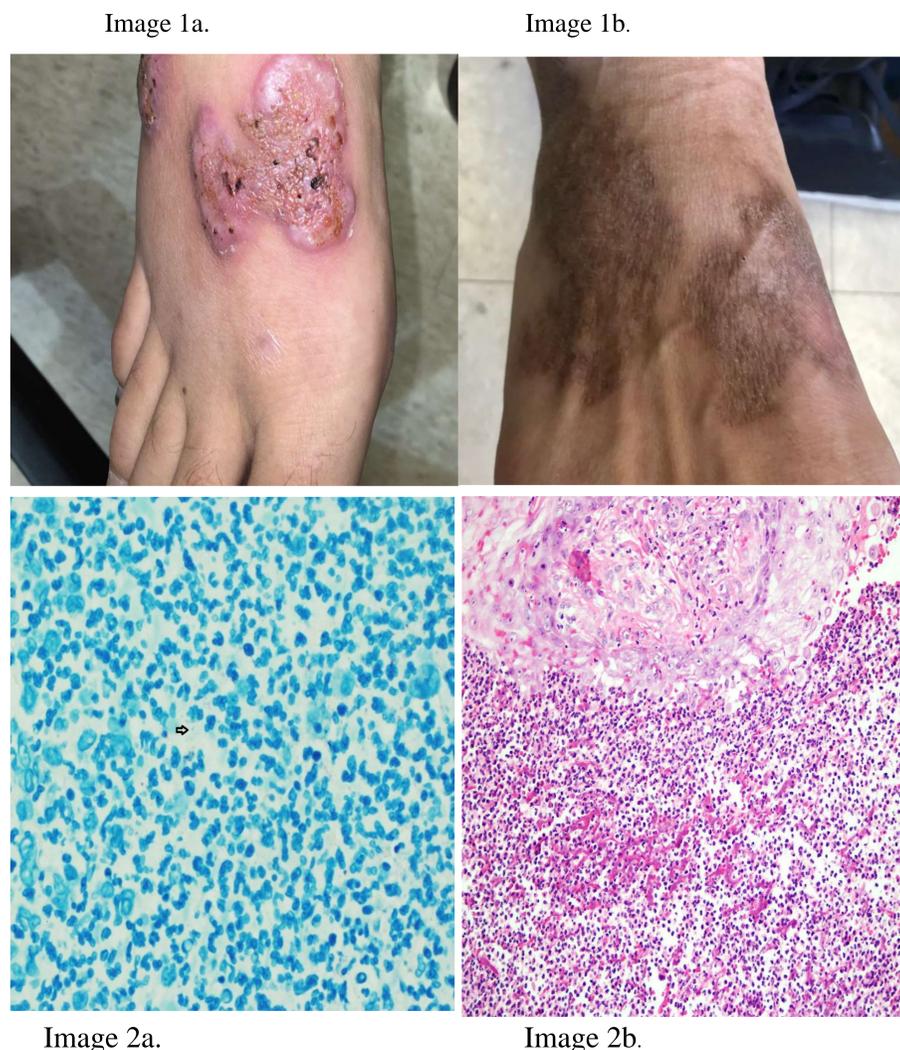


Figure 1:  
Mycobacterium Septicum susceptibility

Antibiotic	Sensitivity	Microscan
Amikacin	Susceptible	<=1
Cefoxitin	Intermediate	64
Ciprofloxacin	Susceptible	<=0.12
Clarithromycin	Resistant	>=32
Doxycycline	Resistant	8
Imipenem	Intermediate	8
Linezolid	Susceptible	4
Minocycline	Resistant	8
Moxifloxacin	Susceptible	<=0.25
Trimethoprim/Sulfa	Susceptible	10

## Discussion:

Mycobacterium septicum is an ubiquitous, rapidly growing, non-tuberculous mycobacterium (NTM) associated with a wide spectrum of clinical diseases in immunocompetent and immunosuppressed population. It was previously identified phenotypically as a member of the Mycobacterium fortuitum third-biovariant complex. Further analysis led to its recognition as a new species in 2000. Since then, only a handful of cases are reported (table 1) and this is likely the second case of skin/soft tissue M. septicum infection.

Management is based solely on clinical experiences. Since RGMs are notorious for resistant to anti-tuberculous drugs, treatment relies on accurate identification and drug-susceptibility testing. Commonly macrolide, quinolones and aminoglycosides are used for extended duration. For our patient, given the progression of skin lesions, we opted for a 4-drug regimen with quinolone, macrolide, tetracycline and trimethoprim-sulfamethoxazole with de-escalation based on final culture susceptibility for at least 6 months.

Table 1:

Case	Author Country/Year	Site of infection	Immunologic status
1	Schinsky Australia/2000	Blood stream infection	Immunosuppressed
2	Toïdi France/2002	Pneumonia	Immunocompetent
3	Hawkins USA/2005	Blood stream infection	Immunocompetent
4	García-Agudo Spain/2006	Pneumonia	-
5,6	Lian China/2009	Pneumonia	Immunosuppressed
7	Makoto Japan/2009	Skin	-

## Conclusion:

- Non-healing, skin lesions should prompt evaluation by biopsy and culture.
- M. Septicum, is an emerging pathogenic NTM
- It is a RPG, with potential to cause bloodstream infections, pneumonia and skin/soft tissue infections
- Given the increasing incidence of NTM infections, exact speciation along with antimicrobial susceptibility testing, should be performed to avoid delays in diagnosis and treatment