

An Atypical Presentation of Mycobacterium abscessus Soft Tissue Infection Leading to a Protracted Disease Course

Joseph Moran DO

Lehigh Valley Health Network, Joseph.Moran@lvhn.org

Joseph Scurozo DO

Lehigh Valley Health Network, joseph.scurozo@lvhn.org

Brian Friel DO

Lehigh Valley Health Network, Brian.Friel@lvhn.org

Follow this and additional works at: <https://scholarlyworks.lvhn.org/medicine>



Part of the [Infectious Disease Commons](#), and the [Internal Medicine Commons](#)

Published In/Presented At

Moran, J. Scurozo, J. Friel, B. (2018, November 10th). *An Atypical Presentation of Mycobacterium abscessus Soft Tissue Infection Leading to a Protracted Disease Course*. Poster Presented at: (ACP) American College of Physicians, Scranton, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

An Atypical Presentation of *Mycobacterium abscessus* Soft Tissue Infection Leading to a Protracted Disease Course

Joseph Moran, DO,¹ Joseph Scurzo, DO¹ and Brian Friel, DO²

¹Department of Medicine and ²Division of Infectious Disease, Lehigh Valley Health Network, Allentown, Pennsylvania

INTRODUCTION

- *Mycobacterium abscessus* is the most pathogenic and clinically challenging of the rapid growing non-tuberculosis mycobacteria (NTM) and is responsible for a wide spectrum of infections including skin and soft tissue infections (SSTIs).
- Patients typically present with cutaneous, tender, non-healing, and nodular lesions that appear after exposure to a traditional risk factor.
- Delayed diagnosis results in a higher likelihood of pulmonary or disseminated infections as *M. abscessus* itself is responsible for 80% of pulmonary manifestations of rapid growing mycobacteria infections.
- Diagnosis is made with biopsy and acid fast cultures while treatment is complicated by multi-drug resistance and the need for surgical debridement.
- Nosocomial outbreaks have been noted worldwide and overall incidence is increasing.^{1,2}

CASE PRESENTATION

- A 50-year-old female with ESRD presented with 4th right ring finger pain and swelling beginning after hemodialysis via her new right arteriovenous fistula.
- Vital signs were normal and there was no leukocytosis; however, inflammatory markers were elevated.
- The dorsal aspect of the digit was violaceous, cool, exquisitely tender with limited range of motion and without nodules or swollen joints.
- The clinical context favored vascular and rheumatologic differentials; yet, extensive work-up was unrevealing.
- Biopsy and acid-fast stains, obtained on hospital day-13, suggested atypical NTM SSTI, prompting empiric therapy with amikacin, imipenem and azithromycin. Abscesses developed requiring multiple surgical debridements and osteomyelitis and necrosis of the 4th digit necessitated amputation.
- On hospital day 39, cultures identified the causative organism as *M. abscessus*. Sensitivities suggested discontinuation of amikacin and imipenem in favor of trimethoprim-sulfamethoxazole and azithromycin.
- After a 52-day hospital course, symptoms stabilized allowing transfer to rehab with continued antibiotics.



Figure 1: Photo of right hand on hospital day #13 s/p biopsy showing swollen, violaceous 4th digit without the presence of nodules and with severe restriction in range of motion and exquisite tenderness to palpation.



Figure 2: Photo of right hand on hospital day #17 showing worsening swelling, and discoloration as well as the subtle appearance of nodules typical of NTM infection. Infection can be seen spreading to the 3rd and 5th digits.



Figure 3: Photo of right hand post hospital discharge and s/p 4th finger amputation. Resolving nodules are seen in the base of the 4th finger. Symptoms did progress extensively into 5th digit but stabilized after the initiation of culture sensitive antibiotics.

CLINICAL CHALLENGES

- Presentations can be diverse and detailed history must be taken to identify common risk factors (spa exposure, cosmetic procedures, environmental exposure, recent surgery).
- Organisms are notoriously multidrug resistant w/ no guideline directed empiric treatment regimens in the setting of culture and sensitivity testing taking weeks to return.¹
- Diagnosis is currently by biopsy and acid fast culture but some studies show promise of a rapid detection PCR test being developed.^{2,3}
- Further delaying the diagnosis is that even when cellulitis is considered, biopsy is rarely utilized unless NTM infections are specifically suspected.

DISCUSSION

- In this case, the initial differential favored vascular and rheumatologic conditions, demonstrating that *M. abscessus* infections can mimic these etiologies.
- Hemodialysis is not considered a traditional risk factor and scarce case reports of associated *M. abscessus* infections exist. Nevertheless, the organism's water-borne nature and propensity to cause nosocomial infections raises suspicion of a link.
- Overall, this case illustrates that *M. abscessus* SSTIs warrant inclusion on the differential in similar cases as failure to quickly and correctly identify patients leads to prolonged courses of infection.⁴
- New effective treatment regimens, more rapid identification methods and improved measures to contain nosocomial transmission are urgently needed.

REFERENCES

¹ Lee M, Wang-Huei S, Hung C, et al. *Mycobacterium abscessus* Complex Infections in Humans. *Emerging Infectious Diseases*. 2015;21:1638-1646

² Edwards C, Diveronica M, Abel E. Epidural abscess caused by *Mycobacterium abscessus*. *American Journal of Case Reports*. 2012;13:180-182.

³ Rocchetti TT, Silbert S, et al. Detection of *Mycobacterium chelonae*, *Mycobacterium abscessus* Group, and *Mycobacterium fortuitum* Complex by a Multiplex Real-Time PCR Directly from Clinical Samples Using the BD MAX System. *The Journal of Molecular Diagnostics*. 2017;19:295-302.