UHealth Jackson Rehabilitation Care
CHRISTINE E. LYNN REHABILITATION CENTER FOR THE MIAMI PROJECT TO CURE PARALYSIS

A rare case of severe resistant MRSA bacteremia due to retropharyngeal and anterior epidural abscess superimposed on cervical spinal stenosis

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INTRODUCTION

- Methicillin-resistant Staphylococcus aureus (MRSA) infection and bacteremia is a global health concern.
- Key steps in managing S. aureus bacteremia entails promptly identifying the infecting strain and its source most commonly skin and soft tissue infections, catheter-related infections, and pneumonia; and selecting appropriate antibiotic regimens.
- 78-year-old woman with diabetes mellitus, venous insufficiency, DVT on Eliquis presented following a fall with right knee pain and altered mental status.

ASSESSMENT/RESULTS

Primary physical exam findings:

- Severe bilateral upper extremity deficits and lower extremity deficits 0-1/5.

Lab workup:

- Leukocytosis, tachycardia, elevated CRP/ESR, urate, positive BCx for MRSA

Initial Imaging:

- TTE (5/2/2024, 5/24/2024), TEE (5/6/2024), ruled out endocarditis.
- MRI brain w/ w/o contrast: unremarkable.

Hospital course complications:

- Right septic thumb
- Bilateral septic knee arthritis (elevated CRP/ESR, uric acid, positive aspirations, knee effusions on X-rays).
- Right shoulder abscess (seen on CT RUE shoulder)
- Discitis, osteomyelitis (C4-C6) with retropharyngeal abscess, severe cervical/thoracic/lumbar stenosis, and disc bulging/herniation (MRI).

Pharmacological treatment:

- Vancomycin failed; escalated to daptomycin, ceftaroline, clindamycin for MRSA. 22-day MRSA bacteremia resolved after anterior neck exploration, deescalated to ceftaroline.

Surgical treatment:

- Bilateral knee I&Ds x2, Right shoulder I&D, right thumb I&D, ENT and neurosurgical evacuation for retropharyngeal abscess, C4-C6 spine.

Severe MRSA bacteremia can be due to **retropharyngeal and anterior epidural abscess** showing symptoms of cervical spinal stenosis, especially after other common causes have been ruled out.

In rare cases, neurosurgical evaluation for **evacuation of these abscesses** is important as a **means for source control,** especially after other treatments have failed such as aggressive antibiotic management.

SCAN ME TO LEARN MORE

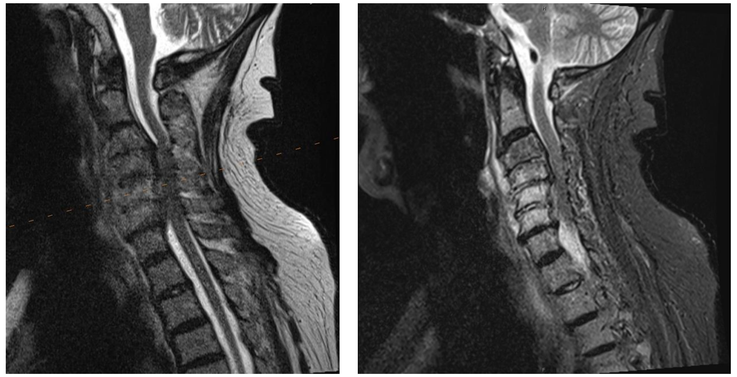

Figure 1. (LEFT) Sagittal cervical MRI indicating retropharyngeal phlegmon causing loss of spinal fluid signaling. (RIGHT) Subsequent imaging after antibiotics showing newly enhanced discitis and osteomyelitis with compression of the cervical cord and interruption of cervical cord signaling.

DISCUSSION/CONCLUSIONS

- The prevalence of retropharyngeal and anterior epidural abscesses as a source of MRSA bacteremia is not well-document due to its rarity
- Given this rarity, her hospital stay may have been longer than expected.
- Further research and clinical studies may are needed to determine the prevalence of this as a means of source control for MRSA bacteremia.
- Healthcare practitioners should keep this in mind as a source, especially when more common sources of bacteremia are ruled out.

REFERENCES

1. Dudeck MA, Edwards JR, Allen-Bridson K, et al. National Healthcare Safety Network report, data summary for 2013, Device-associated Module. American Journal of Infection Control. 2015;43(3):206-221. doi:10.1016/j.ajic.2014.11.014.
2. Brook I. Microbiology and management of peritonsillar, retropharyngeal, and parapharyngeal abscesses. J Oral Maxillofac Surg. 2004;62(12):1545-1550. doi:10.1016/j.joms.2004.07.008.