

A Rare Case Of *Hemophilus influenzae* type b Septic Arthritis And Necrotizing Fasciitis In An Immunocompetent Adult

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Introduction

1. *Hemophilus influenzae* is a rare cause of septic arthritis and necrotizing fasciitis in adults, especially since the widespread use of Hib vaccine
2. Invasive disease is now mainly caused by non-encapsulated *H influenzae*, typically in immunocompromised or asplenic patients
3. We report an unusual case of *H. influenzae* type b- associated septic arthritis with necrotizing fasciitis in an immunocompetent adult, which is exceedingly rare in the post-vaccine era.

Case Presentation

A 61-year-old previously healthy Chinese man presented with a 2-day history of fever and left lower limb pain. He had some upper respiratory symptoms prior for 1 week. There was no history of trauma or waterbody/soil exposure. He was febrile, with tense and tender posterior left thigh and calf. He deteriorated rapidly into septic shock, requiring intensive unit care. MRI scan revealed deep intermuscular fasciitis involving the posterior compartment of mid-distal thigh and leg. Surgical exploration demonstrated frank pus from left knee joint, tracking along fascial planes.

H. influenzae (Figure 1) was isolated from pus and deep tissue cultures. The isolate was identified by MALDI-TOF and serotyped as type b by whole genome sequencing. β -lactamase was not detected. Phenotypic susceptibility testing was performed as per CLSI M100 and the isolate was susceptible to amoxicillin, levofloxacin and co-trimoxazole. Blood cultures, HIV screen, immunoglobulin and lymphocytes subset were all unremarkable.

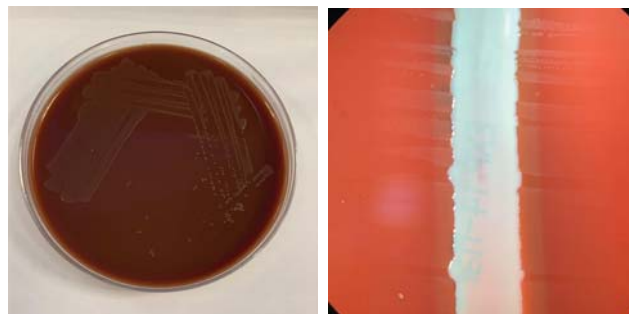


Figure 1. *H. influenzae* on chocolate agar (left) shows typical smooth grey colonies. On blood agar (right), satellite growth is seen around a *Staphylococcus aureus* streak.

The patient underwent multiple debridements, fasciectomy, vacuum-assisted closure and eventual skin grafting. He completed a 5-week antibiotics course and made a full recovery with preserved limb function and resolution of inflammation by 2months.

Teaching points

1. Although *H. influenzae* infections especially type-b have markedly declined after Hib vaccination, invasive disease still can occur sporadically
2. *H influenzae* should be considered in rapidly progressive soft tissue or joint infections, especially in immunocompromised host
3. Prompt surgical debridement, early microbiological identification, and culture-directed antimicrobial therapy are crucial.

References

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