



CASE REPORT

Septic Arthritis of the Wrist with Neisseria Gonococcal Infection

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Abstract

Study Design: Case report.

Objective: To demonstrate a case of septic arthritis with joint aspirate culture positive for Neisseria Gonorrhea.

Summary of background data:

Methods: A single descriptive retrospective case study review design was used.

Conclusion: Gonococcal arthritis of the wrist, successfully treated with targeted antibiotic therapy after joint aspiration.

Keywords

Septic Arthritis, Neisseria Gonorrhea, Wrist, Gonococcal arthritis

Introduction

Septic arthritis of the wrist is uncommon, representing only 3% of all septic arthritis patients. When aspirated, rarely do cultures grow bacteria outside of the scope of Staphylococcus aureus, Streptococcus, and gram-negative rods.

Case report

We present the case of a 33-year-old female with past medical history of ADHD, asthma, opiate abuse, and primary syphilis in 2021, who presented to the Emergency Department with sudden onset of right wrist pain and swelling for 24 hours. Patient denied intravenous drug use at this time, said the symptoms began after she “sniffed Fentanyl and vomited”.

Upon initial examination, patient presented with evolving erythema and edema to the dorsum of right

hand, without fluctuance or crepitus, fingers warm with <2 seconds capillary refill, wrist joint passively mobilized without significant pain (Figure 1). Afebrile, without leukocytosis, CRP 8.25, ESR 44.

CT imaging performed in the ED demonstrating 0.9 x 0.7 x 0.7 cm peripherally enhancing collection along the proximal hypothenar eminence, 1 cm from the skin (Figure 2).

Patient was clinically improving with an antibiotics regimen of IV vancomycin recommended by Infectious Disease team for gram-positive cocci noted on gram stain from joint aspiration, awaiting cultures for further narrowing of antibiotics. ID team agreed that the presentation is odd and that there is a possibility that the drugs the patient sniffed were laced/added glass, which is used frequently with cocaine and could be a cause of hematogenous spread. Surgical exploration was not suggested at the time.

On Day 4, joint aspirate with many neutrophils and gram-positive cocci, now corrected to gram-negative diplococci, as well as culture growing Neisseria gonorrhea. Patient was switched to IV ceftriaxone, which she continued to be given through the infusion center at discharge. A GC/clam NAAT from the urine was negative. HIV testing was negative.

On Day 5, erythema and swelling improved (Figure 3).

Discussion

Septic arthritis of the wrist can cause long-lasting damage to the joint, making timely diagnosis imperative for initiation of antibiotics and surgical intervention to prevent permanent sequela. If left untreated, cartilage



Figure 1: Clinical photograph of the right hand on initial physical examination.

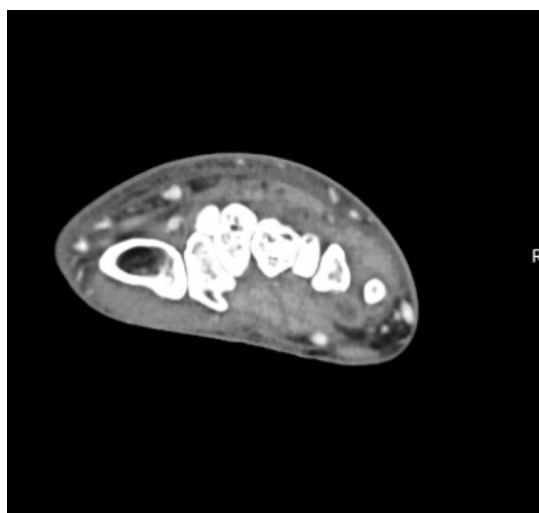


Figure 2: CT imaging of right wrist.



Figure 3: Clinical photograph of improved right hand swelling and erythema on hospital day 5.

destruction and chondrolysis can originate as early as 8 hours since infection initiation. Due to its contiguous spread to the subchondral bone, patient's course can be complicated by osteomyelitis, sinus formation, and even systemic sepsis. The involvement of the wrist is rare and represents only 3% of all septic arthritis patients. The incidence of septic arthritis is stable despite the advances in antibiotic therapy. To guide antibiotic therapy, gram staining and culture should be performed. Numerous organisms can be responsible for an infection of the wrist joint, and in up to 40% of cases, no organism is identified. If it is, *Staphylococcus aureus* remains the most common organism, followed by *Streptococcus*, and gram-negative bacteria.

Conclusion

Gonococcal arthritis, which results from hematogenous spread of *Neisseria gonorrhoeae*, is a clinical manifestation of disseminated gonococcal infection. It is an extremely rare cause of septic arthritis of the wrist. This patient was successfully treated with targeted antibiotic therapy after joint aspiration. Once correct diagnosis was established, we were able to avoid surgical wrist exploration and its potential morbidity [1-3].

Conflicts of interest

We declare that we have no conflicts of interest in the authorship or publication of this article.

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