



Case Report

Gonococcal Polyarthrititis

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Citation: Arévalo EP, Daza LV, Torres JA, Guerra A (2023) Gonococcal Polyarthrititis. Ann Case Report. 8: 1353. DOI:10.29011/2574-7754.101353

Received: 13 June 2023, **Accepted:** 19 June 2023, **Published:** 22 June 2023

Introduction

Propagation of gonococcal infection known as dissemination can be manifested as bacteremia that is caused by *Neisseria gonorrhoeae*, a germ transmitted often in a sexual way, and which could cause a variety of clinical symptoms and signs, as arthritis or arthralgia, tenosynovitis and multiple mucocutaneous lesions.

Case Presentation

Male patient, 46 years old, with major clinical problems such as dyslipidemia, sporadic slight diffuse joint pain that decreases with diclofenac and has been self-limiting for more than a year, he works as a transporter of glass bottle waste. At consult refers pain in the dorsum of foot, thigh and left wrist of 4 days of evolution, which is associated with bilateral shoulder pain most in the right one, the last 24 hours presents distal myalgia, chills and fever up to 39° C, symptoms increase with physical activity, that's the reason why he usually self-medicates with acetaminophen (Tylenol) and ibuprofen. The last 4 hours he presents intense pain in left upper arm with functional impotence that is the reason why he required hospitalization. At physical examination, he presents edema, pain, redness on the foot and left wrist with small abrasions on the forefinger without signs of infection, except for the aforementioned, the rest is unchanged. He does not have cardiac, digestive, genitourinary mucocutaneous or respiratory symptoms. At first, the suggestive diagnosis on admission is septic arthritis, so the empirical treatment starts as soon as blood samples and a urinary specimen were taken. The laboratories upon admission showed: White blood cells count: 21470 mm³, Hematocrit: 38%, ESR: 36mm/hr, Platelets: 270,000,

Caned: 3%, Lymphocytes: 4%, Segmented: 92%, Prothrombin Time: 12.3 sec, Uric acid: 2.7 mg/dl, ASTO: 50 Utood/ ml, CRP: 192 mg/dl (6mg/dl), RF: NEGATIVE, HIV: NEGATIVE, RPR: NEGATIVE, Blood glucose: 97 mg/dl, Urea: 43mg/dl, Creatinine: 1.1mg/dl. A power doppler ultrasound executed on the left wrist shows signs of a tenosynovitis with significant acute inflammatory activity in extensor and wrist flexors tendons, with a predominance of extensor tendons. Also signs of synovitis and hypervascularity were seen with color power Doppler angio ultrasound, at the left radiocarpal and metacarpophalangeal joint of the left hand fingers, which shall indicate signs of inflammatory activity (¿septic arthritis?). MRI (magnetic resonance) realized at left shoulder on acromioclavicular joint is with important in and periarticular inflammatory changes it is seeing discrete edema focus of bone marrow at distal acromial end with the subacromial subdeltoid bursa with a discrete liquid sheet that extends to the subscapular recess. Glenohumeral joint with discrete intra articular liquid sheet (Figure 1-3). MRI of thigh isolated foci of fat infiltration compatible with inflammatory changes (Figure 4). Left foot soft parts ultrasound at the dorsal sideshows: Tenosynovitis at extensor tendons of the fingers, which are with significant signs of acute inflammatory activity. Empirical treatment starts and is based on vancomycin plus ciprofloxacin because of presumptive diagnosis of Septic arthritis due to probable staphylococcus. Evolution is stationary and intercur with significant edema in the left wrist joint with intense pain 10/10, involvement of flexion and extension of the fingers of the hand, being interpreted as compartment syndrome therefore traumatology service performs a surgical intervention of the carpal tunnel, cleaning and small amount of abscess drainage, Gram stain revealed Gram-negative diplococci, with subsequent

growth of *Neisseria Gonorrhoeae*, so the diagnosis of gonococcal arthritis it's confirmed. Pathology: chronic and acute nonspecific synovitis, blood cultures, urine culture and urethral swab are negative. According to sensitivity results, the antibiotics scheme was changed to ceftriaxone 1 g IV every 12 hours for 5 days and later orally cefixime until complete 10 days of treatment. Patient evolved with clear clinical improvement remitting the signs, symptoms and had laboratory improvement too.



Figure 1: Wrist edema.



Figure 2: Surgical drainage.

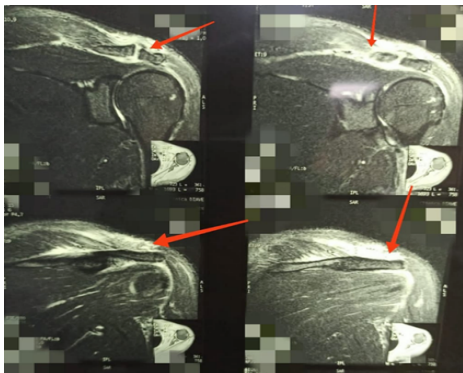


Figure 3: MRI shoulder.

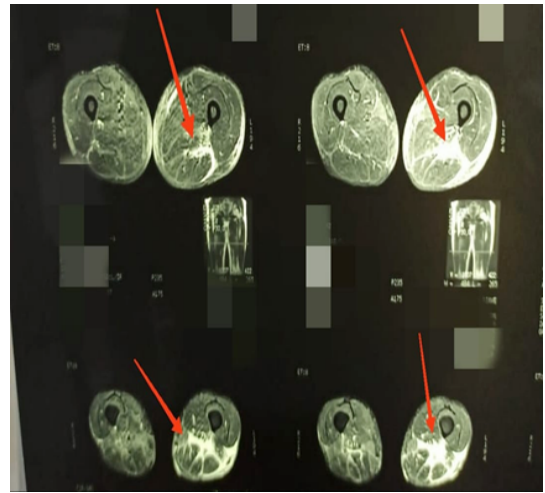


Figure 4: MRI thigh.

Ultimate Remark

Disseminated gonococcal infection resulting from the spread of the sexually transmitting pathogen infection, *Neisseria Gonorrhoeae*, causes many clinical signs and symptoms such as arthritis or arthralgia, tenosynovitis and multiple skin lesions. It is estimated that gonococcal infection disseminated occurs in 0.5 to 3 percent of patients infected with *N. gonorrhoeae* [1]. Symptoms often include fever, migratory arthralgias, and tenosynovitis even dermatitis. The clinical presentation, elevated inflammatory markers, leukocytosis, imaging, synovial fluid analysis, and blood cultures are helpful to get into the diagnosis. Antimicrobial therapy is the mainstay of treatment, and *Neisseria Gonorrhoeae* often has good sensitivity to third generation cephalosporins [2]. Even though the rate of resistance to third generation cephalosporins has increased during the last decade, the alteration of the susceptibility of gonococci to cephalosporins is chromosomally mediated and due to the same changes that determine a loss of susceptibility to penicillin. There is cross-resistance between penicillin and second generation of cephalosporins as cefuroxime however and fortunately, this is not the case for more recently developed cephalosporins such as ceftriaxone and cefixime [3]. Regarding the diagnosis around limited resources, optical microscopy of Gramstained specimens is often the only method available to diagnose infection by *N. gonorrhoeae* presumptively [4,5]. *N. gonorrhoeae* is a fragile microorganism that is difficult to cultivate. Sampling of blood, synovial fluid, skin lesion, tract genitourinary, pharynx, and rectum should be performed before starting antibiotics. The samples should be plated immediately on appropriate fresh

and prewarmed media and quickly sent to the laboratory. The culture of *N. gonorrhoeae* is of great importance not only for the definitive diagnosis but also for the determination of sensitivity to antibiotics [6]. The presented clinical case corresponds to a disseminated gonococcal arthritis, which had early symptoms that easily were unnoticed, with asymptomatic primary mucosa affection and whose sexual partner was examined; the same had Pap smears and bacteriological vaginal sample, which is negative. The evolution is satisfactory with surgical drainage and antibiotic treatment as in cases described in other studies [7].

Footnotes

Declaration of Conflicting Interests: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethics Approval: Our institution does not require ethical approval for reporting individual cases.

Informed Consent: Verbal consent was obtained for the anonymized patient information to be published in this article

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