

# *Aeromonas hydrophila* Septic Arthritis in a Patient Infected with HIV\*

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## ABSTRACT

Septic arthritis is a medical emergency. The causative organisms are primarily staphylococcus and streptococcus. *Aeromonas hydrophila* septic arthritis seems to be rare. We report one case observed in a 58-year-old patient infected with HIV serotype 1 and treated by zidovudine, lamivudine and nevirapine. CD4 count was 413 cells per microliter and viral load undetectable. Two blood cultures were *A. hydrophila* positive. The evolution was favorable after treatment by ceftriaxone and gentamicin.

**Keywords:** Septic Arthritis; *Aeromonas Hydrophila*; HIV

## 1. Introduction

Septic arthritis is a medical emergency that may life-threatening. The causative organisms are primarily staphylococcus and streptococcus. Leading factors are dominated by diabetes mellitus, chronic alcoholism, age, iatrogenic immunosuppression (corticosteroids, immunosuppressants) and pathological (sickle cell disease, HIV infection) [1].

Septic arthritis due to *Aeromonas hydrophila* seems to be rare. Ten cases have only been reported in the world, including seven in the United States [2-9]. No observation has been reported, to our knowledge, in sub-Saharan Africa. We report one case of *A. hydrophila* septic arthritis in a patient infected with HIV.

## 2. Observation

A 58-year-old woman was admitted to the Department of Internal Medicine of Yalgado Ouédraogo University Hospital of Ouagadougou (Burkina Faso) in April 2012 for inflammatory polyarthralgia in the ankles, knees, metatarsophalangeal, proximal and distal interphalangeal joints. The pain had been present for 2 weeks with fever and general condition alteration. The patient had HIV serotype 1 infection diagnosed in 1997 and treated with zidovudine, lamivudine and nevirapine. There is no bath-

ing in a river or pool.

Examination showed an impaired general condition, a fever of 38.5°, blood pressure of 130/80 mmHg, heart rate of 114 beats per minute and a respiratory rate of 21 breaths per minute. The joint examination found bilateral and symmetrical synovitis of the joints mentioned above. There is no soft tissues infection. The rest of the physical examination was unremarkable.

Laboratory tests showed leukocytes rate of 22,000 (normal: 5000 - 10,000) with a predominance of neutrophils (75%), haemoglobin 9 g/dl, erythrocyte sedimentation rate 80 mm in the first hour, C-reactive protein 503.8 mg/L and fibrinogen to 17.18 g/L; the creatinine, urea, serum electrolytes were normal. Anti-Citrullined Peptid Antibodies, antinuclear, anti DNA Antibodies were negative. CD4 count was 413 cellules per microliter and viral load undetectable. Radiographs of affected joints showed no lesions. Diagnosis of septic arthritis was made. Three days later, two blood cultures were *A. hydrophila* positive. The organism was sensitive to all antibiotics tested.

The evolution was favorable under antibiotic therapy with ceftriaxone (2 g/day) and gentamicin (160 mg/day) for 10 days relayed by ofloxacin 400 mg/day for 4 weeks. After ten months, there was no relapse.

## 3. Discussion

*A. hydrophila* is a ubiquitous environmental saprophyte

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living in fresh and brackish water. It scarcely causes infection to human beings. It is a pathogen of fish, lizards, snakes, frogs and other blooded animals. *A. hydrophila* can cause human infections by water-related injuries. All organ can be affected in particular, digestive, cutaneous, pulmonary, meningeal, osteoarticular, endocardial and soft tissues [2,10,11]. Contamination is through damaged skin in contact with contaminated water particularly in the context of professional or recreational water activities [10,11].

*A. hydrophila* is a rare cause of septic arthritis. Only ten cases have been reported in the international literature [2-9]. In three cases, the contributing factor was myeloid leukemia. Our observation is the first, to the best of our knowledge, related to arthritis septic due to *A. hydrophila* in a patient infected with HIV. However, it seems it may occur in the absence of a debilitating condition as reported in two cases in the United States [5]. Indeed, the CD4 count was 413 and viral load undetectable in our patient.

There was no skin injury in our case. In addition, a swim or a possible contamination with aquatic or blooded animals has not been found. However, in our context contamination could be gastrointestinal by ingestion of contaminated water.

Arthritis is usually monoarticular. It can be polyarticular inflammatory. This polyarticular arthritis can be discussed with rheumatoid arthritis [6-9]. The general symptoms are those of a septic arthritis (fever, chills, altered general condition) and a major inflammatory syndrome (leukocytosis, accelerated erythrocyte sedimentation rate and increased CRP). In monoarticular forms, examination of joint fluid allows the identification of the organism [7-9]. If not, positive blood cultures on several samples allow the diagnosis as it was the case in our observation.

The sensitivity of the germ does not seem different depending on the underlying pathology. Indeed, *A. hydrophila* was sensitive to cephalosporins of third generation, fluoroquinolones and aminoglycosides, as reported in other observations [2].

The development was favorable in most of the cases reported in the literature. Three deaths were reported in the US in patients with chronic myelogenous leukemia [8,9].

#### 4. Conclusion

Septic polyarthritis due to *A. hydrophila* may occur in patients infected with HIV. It seems to have no particularity apart from absence of evidence of skin contamina-

tion. The high rate of CD4 count and undetectable viral load in our observations do not permit to consider the location of this organism in the joint as an opportunistic infection.

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