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Case Report

Gonococcal Arthritis in Human Immunodeficiency Virus-infected Patients. Review of the Literature☆

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ABSTRACT

We report a case of gonococcal arthritis in a patient with human immunodeficiency virus (HIV) infection and review 17 previously published cases; only one patient presented urethritis, and blood cultures were positive in one case. Gonococcal arthritis is rare in HIV-infected patients and is not usually associated with other symptoms. It should be considered in the differential diagnosis of acute arthritis in patients with HIV infection.

Artritis gonocócica en pacientes con infección por el virus de la inmunodeficiencia humana. Revisión de la literatura

Palabras clave:
Virus de la inmunodeficiencia humana
N. gonorrhoeae
Artritis
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RESUMEN

Presentamos un caso de artritis gonocócica en un paciente con infección por el virus de inmunodeficiencia humana (VIH) y revisamos los 17 casos previamente publicados en sujetos con infección por este virus; solo un paciente presentó uretritis y los hemocultivos fueron positivos en un caso. La artritis gonocócica es infrecuente en pacientes con infección por el VIH y suele presentarse de forma aislada. Debe incluirse en el diagnóstico diferencial de las artritis agudas en pacientes con infección por el VIH.

Introduction

The prevalence of gonococcal urethritis in homosexuals with human immunodeficiency virus (HIV) infection ranges between 1.7% and 19%[1] and the prevalence of asymptomatic gonococcal infection in this population is around 10%.[2] Despite this high prevalence of gonococcal infection in homosexuals with HIV infection, there have been few reports of gonococcal urethritis. We present a new case and review those published until now.

Case Report

The patient was a 65-year-old homosexual man with a 16-year history of HIV infection. He was undergoing regular follow-up and was receiving retroviral therapy with tenofovir, emtricitabine and neviirapine. He had a good adherence and tolerance and good immunovirological control (HIV viral load <20 copies/mL and CD4+ lymphocytes at 870 cells/μL). He presented with pain and inflammation of the left knee, which exhibited functional weakness, with no fever or other symptoms. On the physical examination, he reported pain on the mobilization of the knee, where there was a discreet effusion. The laboratory tests showed

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Table 1
Published Cases of Gonococcal Arthritis in Patients With Human Immunodeficiency Virus.

Ref.	Country	Sex	Age (years)	Site	Skin	BC/joint fluid culture	Urethritis	Mucosa	CD4+ (cells/μL)	Treatment	Response
11	UK	M	25	Shoulder MTS	No	ND/positive	No	U, P, R negative	114	Penicillin Ampicillin Erythromycin	Yes
12	USA	M	27	Thigh SC	No	Negative/positive	No	U, P, R negative	–	Cephalosporin Amoxicillin	Yes
5	USA	W	35	Wrist Ankle	Yes	Positive/ND		ND	380	Ceftriaxone	Yes
13	TH	W	40	Ankle Wrist Elbow Knee, foot	Yes	ND/positive	No	P positive U, R, C negative	310	Ceftriaxone	Yes
8	SP		28	Knee		ND/positive					
9	SP										
6	SP	M	37	Knee	No	ND/positive	No	228		Ceftriaxone Cefuroxime	Yes
10	USA										
7	RW	M	29	Knee Knee		Negative/negative	Yes			Ofloxacin	Yes
	RW	W	26	Knee		Negative/positive	No			Norfloxacin	Yes
	RW	W	20	Knee		Negative/positive	No			Ofloxacin	Yes
	RW	W		Knees		Negative/negative		C, V positive		Ofloxacin	Yes
14	USA	M	47	Shoulders	No	ND/positive	No	Negative in both	329	Cefotaxime Doxycycline	Yes
15	FR	M			Yes		No				
	FR	M			Yes		No				
4	SA	W	27	Wrist Elbow Knee Ankle	Yes	ND/positive	No	U, P negative	86	Ceftriaxone	Yes
	SA	W	24	Wrists	No	ND	No	P positive	680	Ceftriaxone	Yes
Case reported here	SP	M	65	Knee	No	Negative/positive	No		870	Ceftriaxone	Yes

BC, blood culture; C, cervix; FR, France; M, man; MTS, metatarsus; ND, not done; P, pharynx; R, rectum; RW, Rwanda; SA, South Africa; SC, sternoclavicular; SP, Spain; TH, Thai; U, urethra; UK, United Kingdom; USA, United States; V, vagina; W, woman.

leukocytosis with 14,200 cells/mL, 77% neutrophils, and C-reactive protein was 279 mg/L. Magnetic resonance imaging showed joint effusion and synovitis with synovial thickening, especially in the suprapatellar synovial bursa. Arthrocentesis yielded a cloudy fluid with 24,000 leukocytes/mL, predominantly polymorphonuclear, glucose level of 2 mg/dL and proteins, 5.7 g/dL. The culture produced *Neisseria gonorrhoeae*, which is sensitive to 3rd-generation cephalosporins and resistant to ciprofloxacin. The patient was treated with intramuscular ceftriaxone at 1 g daily for 1 week, and his symptoms slowly resolved. The blood culture performed prior to the antibiotic therapy was negative. Three months before, he had been diagnosed as having early latent syphilis, which was treated with a dose of benzathine penicillin.

Discussion

Gonococcal arthritis is generally produced by hematogenous dissemination of *N. gonorrhoeae*, although this bacterium is uncommon in patients with urethritis.[3] The prevalence is estimated to be 0.5%–3%.[3] In the general population, the disseminated infection predominates in women and both men and women very often have an asymptomatic infection of the mucosa.[3] In the series of cases of gonococcal arthritis and HIV infection published to date[4–15] (Table 1), blood cultures were positive in only 1 of the 7 cases in which they were performed and only 1 patient had urethritis. It is striking that the 65-year-old patient who we present here was the oldest of those reported. There is male predominance because HIV infection, except in Africa, mostly affects men. Four individuals had skin involvement, and asymptomatic mucosal infection was detected in 3 of the 7 patients in whom urethral, pharyngeal, rectal or cervicovaginal specimens were taken. Although the immunosuppression associated with HIV has been proposed to favor the development of disseminated gonococcal infection,[7,8] most of the patients with HIV infection and gonococcal arthritis had a good immunological status.

The diagnosis of gonococcal arthritis requires a high index of suspicion and, aside from blood culture and joint fluid culture, it is necessary to take urethral, pharyngeal, rectal and cervical specimens, as well as from possible skin lesions; the treatment of choice is based on 3rd-generation cephalosporins. An emerging problem is an increase in the decline in susceptibility and resistance to ceftriaxone.[3]

Conclusions

Despite the high prevalence of gonococcal infection among homosexuals with HIV infection, gonococcal arthritis is uncommon. There must be a high index of suspicion and include it in the differential diagnosis of acute arthritis in patients with HIV infection, especially in those at risk for sexually transmitted infections.

Ethical Disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of Interest

The authors declare they have no conflicts of interest.

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