ABSTRACT

This case report describes a patient presenting with anterior knee pain (extensor mechanism pain), a poorly studied complaint in the HIV population. The final diagnosis was malignant fibrohistiocytoma, a rare condition among knee pathologies, successfully treated with endoprosthesis after tumor resection. This article focuses on what the authors learned after treating this patient, particularly on the difficulty in making a correct diagnosis of this group of patients due to lack of adequate epidemiological characterization. By assuming that the pathology was related to long-term infection and treatment of HIV (knee hoffitis), the authors underestimated the gravity of the case, almost compromising the result of treatment.

Key words: HIV infections, Knee, Lipodystrophy, Sarcoma

INTRODUCTION

This case report describes a patient infected with HIV presenting with anterior knee pain. The final diagnosis was malignant fibrohistiocytoma, a rare condition among knee pathologies. The difficulty in making the correct diagnosis because of the multitude of coinfections and comorbidities in the HIV population led the authors to a first erroneous diagnosis almost compromising the results of treatment. This experience is discussed further in the text.

CASE REPORT

The patient WPO, from the city of São Paulo (Brazil), a 75-year-old caucasian male, had been receiving antiretroviral treatment in Hospital das Clínicas of São Paulo, since being diagnosed with HIV 12 years earlier (now taking lamivudine, tenofovir, atazanavir, and ritonavir for the last three years). He was in a good general condition, with good viral and immunological control (undetectable viral load and CD4 count of 653/mL). He also had lipodystrophy syndrome diagnosed five years ago. Other laboratory tests were normal, and he did not have any other coinfections, had no drug addiction, and no other comorbidities.

He sought medical assistance because of a complaint of patellofemoral pain in his right knee that had started one year earlier with increasing local volume and progressive inability to perform active extension. He had a knee extension lag of 30º. He was able to walk only with a stick. The increased volume was concentrated below the patella and posterior to the patellar tendon, without local inflammatory signs, history of trauma, and infection.

The initial suspicion was inflammatory abnormalities of Hoffa’s fat pad. In addition, a tendinopathy with partial chronic lesion of the patellar tendon probably explained the clinical findings.

It was decided first to perform a magnetic resonance imaging (MRI) [Figures 1 and 2]. This revealed the presence of edema and thickening of the infrapatellar fat, with the formation of a nodule measuring 2.0×1.6×2.0 cm, with low signal and no impregnation with contrast. This was interpreted as a solid fibrous mass. The patellar tendon was found thickened, with foci of partial ruptures and with peritendinous edema.

The treatment for this situation is essentially nonsurgical. Since our patient did not show any improvement through physiotherapy and drug treatment, surgical treatment was indicated. This was done with the aim of exploring the

Address for correspondence:
Dr. Riccardo Gomes Gobbi, E-mail: gobbi85@bol.com.br
patellar tendon and reconstructing it if necessary, along with partial resection of Hoffa’s fat and the nodule, with pathological analysis of the tissue.

The intraoperative appearance of the knee showed an intact patellar tendon with an infiltrated tissue around Hoffa’s fat, without any local inflammatory reaction [Figure 3]. It was decided only to biopsy this tissue and culture for bacteria, mycobacteria, and fungi.

None of the cultures was positive. On the 14th day after the operation, the results from the anatopathological examination revealed that the nodule consisted of a high-grade malignant fibrohistiocytoma, without sufficient margins of resection.

After ruling out metastasis [by thoracic and abdomen computed tomography (CT) and bone scintigraphy], our patient underwent bloc resection of the entire joint, including the distal femur, proximal tibia, patella, and musculature of the distal quadriceps.

The knee joint was reconstructed using an endoprosthesis, which was covered by rotating a flap from the medial gastrocnemius muscle and the extensor mechanism was reconstructed using the sartorius muscle. The pathological analysis confirmed free resection margins.

The patient has a good functional outcome, walking with the aid of one crutch and without any recidive after 18 months of the surgery.

**DISCUSSION**

The most common causes for this pain are degenerative or traumatic modifications of the patellar and trochlear cartilage, tendonitis, inflammatory processes of Hoffa’s fat, and patellar dysfunction caused by muscle weakness, shortening, or instability.

The pain-specific localization was suggestive of an inflammatory process in Hoffa’s fat or chronic partial lesion of the patellar tendon, which would explain the active extension deficit.

Within the context of considerable increase in life expectancy among patients infected with HIV achieved since the introduction of highly active antiretroviral therapy (HAART), certain osteoarticular consequences of prolonged duration of viral infection and its treatment have been observed, such as osteopenia/osteoporosis,[1] osteonecrosis,[2] carpal tunnel syndrome,[3] adhesive capsulitis of the shoulders,[4] modifications of body shape, and changes in lipid and glucose metabolism.[5]
A care and study group called the “Bone-HIV” group was created in our hospital to assist patients with HIV/AIDS presenting any orthopedic complaint. Another complaint frequently observed in this group is patellofemoral pain. The medical literature on this orthopedic abnormality is very sparse, and we have not found any reports or epidemiological characterization of patellofemoral pathological conditions among this group of patients.

One of the few studies on this subject in the literature described abnormalities in Hoffa’s fat in patients with HIV, which may have an etiological link to patellofemoral pain. The typical changes induced by long-term infection and therapy of HIV may have a negative impact on the extensor mechanism of the knee, which led us to an erroneous initial diagnosis, instead of a much more aggressive disease.

Malignant fibrohistiocytoma was first described in 1964 and is currently known as high-grade pleomorphic sarcoma in adult life. It mainly affects the appendicular skeleton. This tumor originates especially in the deep fascia and muscles. Malignant fibrohistiocytoma usually presents as a deep painless mass, without other local or systemic symptoms. It is diagnosed by means of needle or incisional biopsy. The staging depends on the histological grade, size, and presence of metastasis, which is the most important prognostic factor regarding survival. The overall five-year survival ranges from 36 to 52%.

The treatment is based on surgical resection with wide margins. Radiotherapy is administered in most cases, with good results relating to local control, either before or after the surgery. The role of chemotherapy is unclear, but it can be administered particularly in cases with a high risk of metastases. In this case, chemotherapy was not used because of unclear evidence of benefit and the risk of side effects.

As the case evolved, it became clear that the abnormalities in the patient’s knee were unrelated to his chronic HIV infection. However, this case once again raises the issue of lack of knowledge of the long-term changes caused by this disease. Since there have been sporadic reports of abnormalities of Hoffa’s fat among such patients, along with the nonspecific presentation of the condition in our patient, we were led to believe that his condition could have been related to HIV.

We again emphasize that studies on osteoarticular changes (such as bone density, muscular mass, joint mechanics, and cartilage loading) induced by chronic HIV infection need to be conducted, to epidemiologically define this population better and diminish the frequency of erroneous diagnoses among patients with HIV/AIDS.

Conditions that are unknown or not understood cannot be treated adequately.

REFERENCES

1. Bruera D, Luna N, David DO, Bergoglio LM, Zamudio J. Decreased bone mineral density in HIV-infected patients is independent of antiretroviral therapy. AIDS 2003;17:1917-23.
2. Allison GT, Bostrom MP, Glesby MJ. Osteonecrosis in HIV disease: Epidemiology, etiologies and clinical management. AIDS 2003;17:1-9.
3. Asensio O, Caso JA, Rojas R. Carpal tunnel syndrome in HIV patients? AIDS 2002;16:948-50.
4. De Ponti A, Vigano MG, Taverna E, Sansone V. Adhesive capsulitis of the shoulder in human deficiency virus-positive patients during highly active antiretroviral therapy. J Shoulder Elbow Surg 2006;15:188-90.
5. Viraben R, Aquilina C. Indinavir-associated lipodystrophy. AIDS 1998;12:F37-9.
6. Lima AL, Godoy dos Santos AL. Alterações ortopédicas na AIDS/Orthopedic complications in HIV patients. Rev Bras Ortop 2009;44:186-90.
7. Torshizy H, Pathria MN, Chung CB. Inflammation of Hoffa’s fat pad in the setting of HIV: Magnetic resonance imaging findings in six patients. Skeletal Radiol 2007;36:35-40.
8. Al-Agha OM, Igbokwe AA. Malignant fibrous histiocytoma: Between the past and the present. Arch Pathol Lab Med 2008;132:1030-5.
9. Gibbs JF, Huang PP, Lee RJ, McGrath B, Brooks J, McKinley B, et al. Malignant fibrous histiocytoma: An institutional review. Cancer Invest 2001;19:23-7.
10. Kearney MM, Soule EH, Ivins JC. Malignant fibrous histiocytoma: A retrospective study of 167 cases. Cancer 1980;45:167-78.

How to cite this article: Gobbi RG, Rebolledo DS, Lima AM, Godoy dos Santos AL. Malignant Fibrohistiocytoma of the Knee in a Patient with HIV. J Global Infect Dis 2012;4:212-4.

Source of Support: Nil. Conflict of Interest: None declared.