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The Diagnostic Value of Subtle Mucocutaneous Papules in Preventing Misdiagnosis of Kaposi Sarcoma in an HIV-Infected Patient: A Case Report

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ABSTRACT

Kaposi's sarcoma (KS) is a rare multifocal angiogenic tumor often seen in an immunocompromised setting such as acquired immunodeficiency syndrome (AIDS) or in organ transplantation recipients. Here, we describe an 18-year-old HIV-infected female patient who developed pulmonary and lymph node disease with features mimicking tuberculosis.

This case of KS suggests that dermatologists visiting HIV-infected patients with respiratory symptoms should have a high degree of awareness and consider other differential diagnoses along with merely an opportunistic infection such as tuberculosis.

Keywords: HIV Infection; AIDS; Kaposi's Sarcoma, Tuberculosis, Unusual Presentation

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Introduction

Kaposi sarcoma (KS) is an angio-proliferative malignancy caused by human herpesvirus-8 (HHV-8) and is a well-recognized AIDS-defining malignancy in people living with HIV [1]. Pulmonary and lymph node involvements are common in advanced disease, and these manifestations can closely mimic opportunistic infections such as tuberculosis, especially in high TB-burden settings [2-4]. Pulmonary KS typically presents with nonspecific respiratory symptoms such as dyspnea, cough, and radiographic findings (e.g., nodules, peribronchovascular infiltration, pleural effusions) and fever, that are not easily distinguishable from those seen in pulmonary infections like tuberculosis or Pneumocystis jirovecii pneumonia [5,6]. Lymphadenopathy is also a common misleading feature; this diagnostic challenge is compounded when, due to lack of careful dermatologic and mucosal examination, subtle KS lesions may be overlooked, leading to misdiagnosis and inappropriate initiation of empiric anti-tubercular therapy [6]. Recognition of even small vascular papules on exposed skin or hidden mucosal sites may provide a crucial diagnostic clue and

prevent delays in appropriate oncologic management [7]. Misdiagnosis as tuberculosis is well documented, leading to delays in appropriate therapy for KS and unnecessary anti-TB treatment. High clinical suspicion for KS should be maintained in HIV-infected patients with unexplained pulmonary or lymph node disease before starting empiric anti-TB therapy, with proper focus on physical examination.

Here, we report an HIV-infected patient presenting with pulmonary and lymph node disease.

Case report

An 18-year-old female with a six-year history of human immunodeficiency virus (HIV) infection presented to the Comprehensive Care Centre in Nairobi, Kenya, for a routine three-month follow-up visit. She reported progressive weight loss, chronic cough, shortness of breath, and fatigue over several weeks. There was no documented prior diagnosis of tuberculosis. The patient reported that she was currently undergoing antiretroviral therapy (ART). However, upon further inquiry, it was disclosed that the patient had been inconsistently adhering to oral ART earlier in the year.

Initial general physical examination revealed generalized lymphadenopathy. Based on the presence of lymph node enlargement and respiratory symptoms, pulmonary tuberculosis was suspected by the primary care physician, and chest radiography was requested, which showed significant white opacity in the lower half of the lungs, especially on the left side, which likely indicates pleural effusion (fluid accumulation in the pleural space) or consolidation, and costophrenic angle obliteration, especially on the left, which supports the possibility of a pleural effusion. It also showed perihilar opacities and mediastinal lymphadenopathy (Fig. 1B).

Subsequent detailed dermatologic examination revealed a small violaceous papule on the patient's cheek (Fig. 1A), raising suspicion for Kaposi sarcoma. This finding prompted a comprehensive mucocutaneous examination, which revealed multiple dark purplish nodular lesions on the hard palate, slightly raised, non-ulcerative, located on the midline and posterior hard palate (Fig. 1C) the classic site for KS. Acral sites are among the most commonly affected areas for Kaposi sarcoma, especially in HIV-positive patients. In our patient, most of the lesions were also on acral sites. Additional small erythematous papules were noted

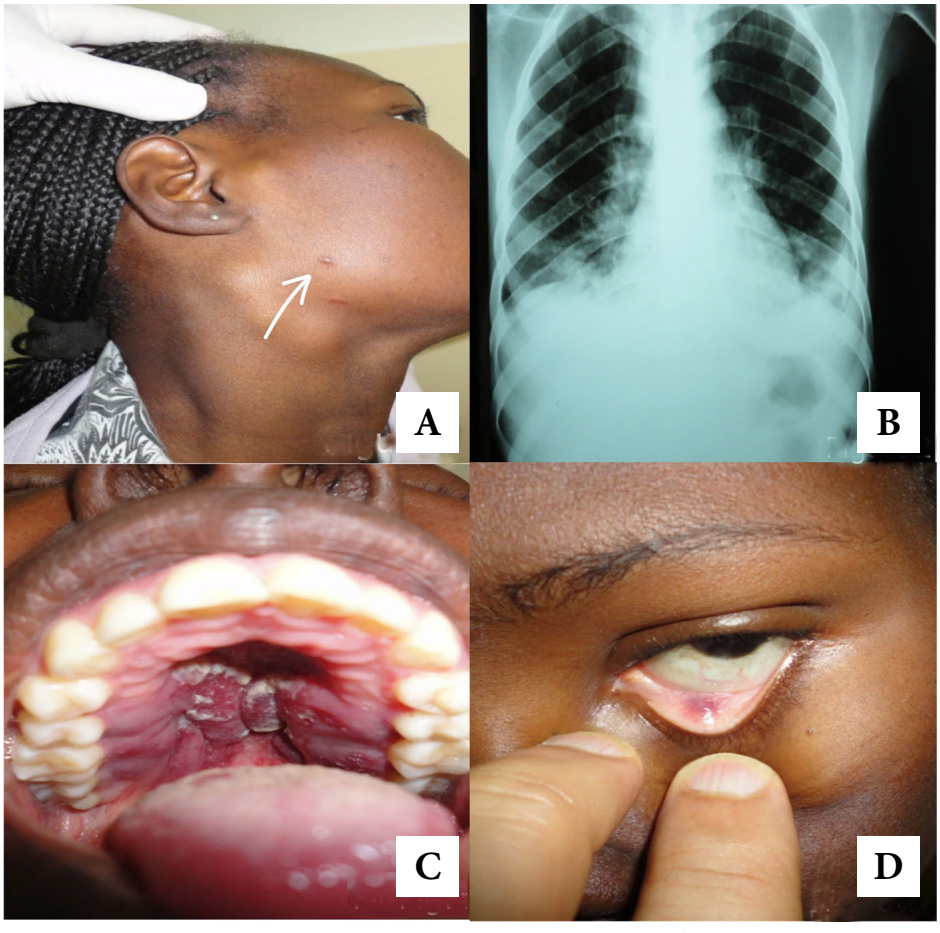

Fig. 1: Clinical and radiologic presentation of case

on the dorsal surface of the tongue. Careful ocular examination revealed a violaceous vascular nodular lesion on the lower conjunctiva of the left eye (Fig. 1D).

Based on clinical diagnosis, anti-TB treatment was cancelled, and a biopsy was obtained from the skin lesion, which revealed a dermal nodule with spindle cell fascicles with dilated channels and hemorrhages, confirming the diagnosis of Kaposi sarcoma. Unfortunately, immunostaining for human herpesvirus 8 was not performed due to some financial issues. Then, a regimen of bleomycin and vincristine was started for 6 courses every 2 weeks. After two weeks of chemotherapy, not only did the cutaneous lesions regress, but the patient also reported comfortable breathing even during walking with very little cough.

Discussion

KS is a low-grade malignant potential angioproliferative neoplasm. The precise etiopathogenesis remains incompletely understood; however, it is believed that impaired immunity and infection with HHV-8, along with an angiogenic environment created by inflammatory cytokines, may contribute to the development of the disease. It is proposed that altered immunity diminishes immunological surveillance, resulting in the reactivation of a latent HHV-8 infection in patients who are genetically predisposed [7].

KS is categorized into four distinct types: classic, endemic, immunosuppression-associated or iatrogenic, and AIDS-associated or epidemic. While KS remains one of the most significant AIDS-defining illnesses, given the greater number of individuals surviving long term with HIV, it is now more commonly diagnosed following the commencement of ART [8].

Kaposi sarcoma may present with minimal or subtle cutaneous manifestations, and in some patients, visceral disease precedes obvious skin involvement. Small violaceous papules on the face or mucosal surfaces are easily overlooked, particularly when attention is focused on systemic symptoms such as cough, weight loss, and lymphadenopathy. This is clinically significant, as pulmonary and lymph node involvement by KS can closely resemble tuberculosis on both clinical presentation and radiologic imaging, including nodal enlargement, perihilar infiltrates, and pleural effusions.

Misdiagnosis of KS as tuberculosis has been widely reported and often results in delays in HIV-related oncologic therapy and exposure to unnecessary anti-TB treatment [4-6]. A high index of suspicion is therefore required in HIV-infected patients who present with unexplained pulmonary disease or lymphadenopathy, particularly when there is poor clinical response to empiric antimicrobial therapy.

The presence of multiple mucocutaneous lesions significantly increases the likelihood of visceral KS involvement. Previous studies have shown that a substantial proportion of patients with widespread cutaneous or mucosal KS also have pulmonary or gastrointestinal disease [9,10]. In our patient, the identification of multiple lesions involving the cheek, hard palate, tongue, and lower conjunctiva strongly supported the diagnosis of disseminated KS with pulmonary involvement.

Our patient had opportunities to consult dermatologists. KS can be challenging to diagnose, particularly when the clinical presentation is atypical. Examination of less obvious sites, such as the lower eyelid conjunctiva, is especially important. Conjunctival KS lesions may present as small violaceous or vascular nodules and can easily be missed unless specifically sought. A thorough physical examination, including inspection of acral areas and mucosal surfaces, should be an integral part of the evaluation of HIV-positive patients with systemic symptoms. Skin or mucosal biopsy is a low-risk, high-yield diagnostic procedure and should be performed promptly when KS is suspected.

In fact, the inside of the lower eyelid is one of the most common sites of KS. Hence, in cases of mucosal and skin involvement, the doctor must not ignore the importance of examining the lower eyelid for KS. Therefore, the lower eyelid lesion should not be forgotten, and a thorough physical exam especially exposing acral areas should be done. A physician with his or her finger should pull down the lower eyelid wearing gloves to check for any hidden lesion suggestive of Kaposi sarcoma lesions, as it can be strongly suggestive for the diagnosis of Kaposi sarcoma.

Other differential diagnoses for Kaposi sarcoma skin lesions could be bacillary angiomatosis, hemangioma, cherry angioma, telangiectasia, lesions due to mustard gas or chemical agents, or poikiloderma, which may mimic Kaposi sarcoma [11-14]. Skin biopsy is a low-risk and high-yield procedure in cases of suspected disseminated KS. A high index of suspicion is needed in endemic TB/HIV populations.

Conclusion

This case highlights the critical role of meticulous dermatologic and mucosal examination in HIV-infected patients presenting with pulmonary and lymph node disease. Identification of a small violaceous facial papule prompted further focused examination, leading to the discovery of additional mucocutaneous lesions involving the hard palate, tongue, and lower conjunctiva of the patient's left eye. Recognition of these subtle lesions prevented inappropriate continuation of anti-

tubercular therapy and allowed timely consideration of KS with pulmonary involvement. Clinicians should maintain a high index of suspicion for KS in HIV-positive patients with multiple skin or mucosal lesions, as such findings are frequently associated with visceral disease. Examination of the lower eyelid conjunctiva should not be neglected, as it may provide a valuable diagnostic clue in disseminated Kaposi sarcoma.

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